Scientific literature review, discussion, public comments and considerations for the proposed Lee County Landscape and Fertilizer Best Management Practices Ordinance

(rev. 10/31/07, Lee County Division of Natural Resources)

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PURPOSE

The purpose of this white paper is to provide a condensed discussion of the comments and recommendations brought forth by the community during this process and up to the October 16, 2007 public meeting at the Southwest Florida Regional Planning Council. This discussion includes staff literature research to investigate the rationale and the scientific versus best professional judgment basis for each recommendation.

SUMMARY

Lee County has experienced a general decline in the quality of its surface water. An example of this decline has been exhibited in the Caloosahatchee resulting in harmful algal blooms, negative impacts to human health and our economy and has limited the use of our water resources. This can be attributed to the fact that the river has surpassed its capacity to assimilate nutrients. The Caloosahatchee and many of its tributaries are verified impaired for nutrients by FDEP and are scheduled for Total Maximum Daily Load (TMDL) development in 2008-2009. In 2008, the tributaries to the Estero Bay will also be subject to TMDL development by the State.

In light of the State's obligation to develop TMDLs and implement basin management action plans, the Florida Department of Agriculture and Consumer Services and Department of Environmental Protection worked in concert to upgrade the requirements of Florida's Commercial Fertilizer Law, Chapter 576, Florida Statutes and Chapter 5E-1, Florida Administrative Code that will become effective 12/31/2007 to address the content of fertilizers distributed to the public. Lee County staff has considered this legislation heavily in the writing of the fertilizer ordinance however the County has the latitude within this ordinance to enact local legislation stronger than that set forth by the State if applicable. The State and County are relying heavily on the IFAS Florida Friendly BMPs developed for green industry as a reference for residential and professional grade fertilizer distributors, golf courses and agriculture.

Upon staff's review of the scientific and professional rigor of these best management practices; the BMPs are not necessarily based solely on scientific studies to draw conclusions; rather best professional judgment detailed in the Florida Green Industries (2002) manual by experienced horticultural and agronomic scientists. After speaking with many of the top experts in this field in Florida, there are apparent gaps in research. Those areas include fertilization buffer zones and no mow or low maintenance zones. Additionally, where there are gaps in data, best professional judgment was used to determine the statewide best management practices. (Personal communication; 10/18/07, Dr. Laurie Trenholm.)

BACKGROUND/DISCUSSION

Over the course of the last year Lee County Natural Resources staff met with Lee County IFAS Extension staff, FDEP staff, members of the landscape industry, and the environmental community. A draft ordinance was submitted to these groups as well as staff from the Southwest Florida Regional Planning Council (SWFRPC) for review and critique. During that time the State passed rule 5E-1.003 in August 2007 for regulation of bag content and application rates. Lee County staff cites this rule in the ordinance for these provisions to create continuity with statewide practices in Southwest Florida. In addition, Lee County staff have cited or quoted the

Florida Green Industries (2002) manual for best management practices with the rationale to provide continuity with other statewide practices that could be exercised in this region.

The initial draft of the proposed ordinance followed the general format and had many of the same provisions as set forth in the Southwest Florida Regional Planning Council's (SWFRPC) Fertilizer Resolution. The SWFRPC's resolution contains options and insight provided by community leaders from the Lee County Commission, Lee County staff, RPC staff, Sarasota County Commission, the City of Sanibel, the City of Bonita Springs, the University of Florida IFAS, Florida Department of Environmental Protection, and Florida Department of Agriculture and Consumer Services. The SWRPC's resolution was approved and passed unanimously by these agencies on March 15, 2007. Below is a table demonstrating similarities and differences among the local ordinances, the Florida Green Industries 2002 manual and the RPC resolution;

Figure 1. Comparison Matrix

Requirement	SWFRPC Resolution (Final)	Sanibel Ordinance (Final)	Sarasota County Ordinance (Final)	Lee County Ordinance (rev. 10/2007)	Florida Green Industries Manual(2002)
No N (1) or P (2) fertilizer application period	July 1 – September 30	July 1 – September 30	June 1 – September 30	July 1 – September 30	July 1 – September 30; only when heavy rain is imminent
Maximum P for turf or landscape	2%	2%	<0.25 lbs P/1000 sf per application, <0.50 lbs P/1000 sf per year	Citation 5E-1.003;<0.25 lbs P/1000 sf per application, <0.50 lbs P/1000 sf per year	0-2%
Maximum total N for turf or landscape	20%	20%	Not specified	Not specified - 5E-1.003 cited	N/A
Of N, required slow release N	70%	50%	50%	No % specified; Encouraged, not mandatory	No % specified; recommended in environmentally sensitive areas
Maximum N per 1,000 Sq ft per application	1 pound	1 pound	Not specified	Citation 5E-1.003;1 pound	0.5 pounds N/1000 ft2 per application

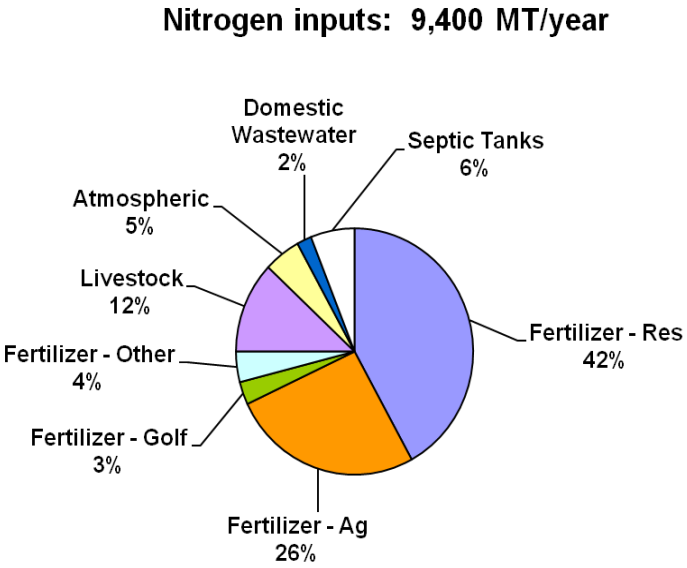
Requirement	SWFRPC Resolution (Final)	Sanibel Ordinance (Final)	Sarasota County Ordinance (Final)	Lee County Ordinance (rev. 10/2007)	Florida Green Industries Manual(2002)
Maximum N per 1,000 Sq ft per year	4 pounds	4 pounds	4 pounds	Turf Species dependent; 3-7 lbs See Rule 5E-1.003	Maintenance level dependent (up to 6 lbs) P.26 Table 5
Total # fertilizer applications per year	6	6	Not specified	Not specified	Not specified
Keeping fertilizer off impervious surfaces	Yes	Yes	Yes	Yes	Yes
Use of deflectors shields required	Yes	Yes	Yes	Yes	Yes
No fertilizer waterbody – wetland buffer zone	25 feet	25 feet	10 feet	10 ft without deflector, 3 ft with deflector	10 ft without deflector, 3 ft with deflector
No mow waterbody – wetland	None	None	Voluntary Low Maintenance Zone	None	None
Exempt turf and landscape establishment period	60 days	60 days	60 days	60 days	N/A
Exemption for vegetables gardens	Conditional - If >25 ft from waterbody	Yes	No	Conditional - If >15 feet from waterbody	N/A
Exemption for mulch and compost	Yes	Yes	No	Yes	N/A
Exemption for Golf Courses (3)	Yes	Yes	Yes	Yes	N/A

Requirement	SWFRPC Resolution (Final)	Sanibel Ordinance (Final)	Sarasota County Ordinance (Final)	Lee County Ordinance (rev. 10/2007)	Florida Green Industries Manual(2002)
Exemption for Agriculture	Yes	N/A	Yes	Yes	N/A
Reuse water buffer to waterbody and wetlands	25 feet	None	None	None	N/A
Do-it-yourself Landscaper provision	Yes – Mandatory for BMPs, not certification	Yes - Mandatory for BMPs, not certification	Yes – Mandatory for BMPs, not certification	None	Yes – Recommended, Not mandatory

The Board and many in the community have expressed a desire to have an ordinance that is "scientifically based". Science can be used to justify the use of fertilizer in that there is science demonstrating that plants thrive when fertilizer is applied appropriately and during their peak growing season – rainy season (*Florida Green Industries Best Management Practices for Protection of Water Resources in Florida* manual, 2002). Science also tells us that nitrogen and phosphorus run-off in local waters has a very damaging effect that is worsening with increasing population and leading to increasing inputs into the watershed. (National Academy of Science, 2000)

One of the best studies illustrating nitrogen contributions in a single basin was done for the Wekiva Springs Watershed Protection Strategy in 2004. The following graphic shows the percent contribution for nitrogen in that basin on an annual basis. This should give some perspective on the order of magnitude of this problem in Lee County. (See Figure 1 below).

Figure 2. Wekiva Springs Watershed Protection Strategy



Our economy and quality of life are based on many factors including aesthetics and environmental health that directly translates to our physical and economic health. An example of scientific results that illustrate the magnitude of economic damage that communities sustain as a result of nutrient pollution is a recent University of Florida published study (Larkin & Adams 2006). This study revealed "*…marine algae… populations are greatly influenced by water quality (e.g., levels of salinity, dissolved oxygen, nutrients, and minerals)*" and "*…that harmful algal blooms (HABs) were found to reduce restaurant and lodging revenues in the localized study area by $2.8 million and $3.7 million per month, respectively, which represents a 29% to 35% decline in average monthly revenues for each sector during months of red tide incidence"* in Destin, FL.

While tourism is a significant part of our economy it is not the only contributor. The landscape industry supplies jobs and revenues to Lee County as well. This community is understandably very concerned that their livelihood may be threatened by requirements to change cultural practices or limit nutrient application to lawns and the loss of autonomy to tailor agronomic programs for clientele. A market "disruption" such as this can be an opportunity for businesses to innovate and thrive regardless of changes that may be required. (Applegate, 2007) Lee County's tourism industry relies very heavily on environmental quality. The industry draws approximately 2 million visitors per year with a contribution to our economy of direct revenues of approximately $1.3 billion and indirect revenues of $2 billion annually. (Lee County Visitor & Convention Bureau, 2006 http://www.leevcb.com/)

In addition to the cost to various sectors of the economy is the cost to the County's operations and management budget. There are very few estimates given in research for the cost of nitrogen removal per pound however we do have good estimates supplied by IFAS research for the Lake Okeechobee and Everglades restoration efforts. The gap in research to determine nitrogen removal costs is largely driven by the geographic priority in which the Federal government, State and WMD have pursued restoration.

The following is a hypothetical cost estimate to remove non-point source pollution based on a comparison of the 2003 IFAS (Sano, 2003) estimated cost for phosphorus removal in Lake

Okeechobee and the Everglades and actual Lee County data outputs from the Water Management Model (WMM) used for the Southwest Florida Feasibility Study (SWFFS). According to the WMM output the annual average load of phosphorus in all of Lee County is 146,000 lbs/yr. Using the median values for both the cost estimate (1800 $/lb) and the removal goal (64% or 93,000 lbs) from the IFAS study the cost estimate to remove phosphorus in Lee County using a traditional STA or filter marsh system is $167,000,000 amortized over 50 years for an annual expenditure of $3,300,000 per year. This estimate is made to give the reader an idea of the rough order of magnitude costs involved in phosphorus pollution removal. This estimate should not be considered an assessment of actual costs that will be incurred by Lee County to obtain compliance with future TMDLs, but a realistic estimate based on a scenario applicable to Lee County.

The strategy proposed by the industry and the lay community for nitrogen and phosphorus pollution prevention is public education for homeowners. The cost estimate for this is roughly $245,000 for the first year and $81,000 for the next four years to cover salary, materials and operating expenses for two new FYN Extension Agents. Public education is only one pollution prevention strategy to follow, but could save Lee County tax payers millions of dollars per year. There is little statistical data at this point quantifying the impact of public education, however the cost of implementing education to achieve pollution prevention is obviously far less than the cost to build and maintain stormwater treatment areas. “An ounce of prevention is worth a pound of cure…” – *B. Franklin*

Landscape and fertilizer industry economics are certainly an important factor to consider. There are many products available to help decrease the frequency fertilizer must be applied. One of the family of products designed to reduce frequency of application is slow release fertilizers. They come in a variety of forms that allow for break down by microbial action, water exposure, and heat exposure. Resistance to change is an understandable reaction for the landscape and fertilizer industry communities as it will require user education and accommodation by the fertilizer producers to supply these products for use by landscapers. There is however, evidence in other communities which have decreased their nitrogen use that markets will adapt to demands created by market “disruptions” such as new regulation. The European Fertilizer Manufacturers Association has observed a decline over the last several years for the demand for nitrogen products as a result of stricter environmental regulation. The result is that they work diligently on forecasting demand and adjust their products to meet that demand. This shift in demand has notably been lead by the European agricultural industry.

To this point, County staff has primarily focused on continuity between state rules and guidelines as the architectural framework of this ordinance. Upon review by stakeholders concerns have been raised by industry, the environmental community as well as other concerned citizens.

The following is a discussion of these issues as they have been raised through written public comment;

1) **Inclusion of residential landscapers/consumers in the ordinance:** Residential (Do-it-yourself or DIY) landscapers are often less knowledgeable about potential environmental consequences with respect to fertilizers, the cost associated with wasteful behavior and may be more apt to apply fertilizers improperly. In fact, Lee County **residential fertilizer sales** have increased from 5,238 tons in 1998 to 20,420 in 2006 – an increase of 15,182 tons or a **290% increase**. Exempting residential (non-professional, DIY) applicators would be contrary to the Lee County findings related to the significant impact of the DIY activity as a contributor and part of fertilizer loading. The Florida Fertilizer Task Force has accumulated

the following data on fertilizer use statewide; 75% Farm Use, 25% Non-Farm Use, Do It Yourself (DIY) Lawn Fertilizer use is 4.2% of total fertilizer use and DIY Lawn Fertilizer use is 17.4% of Non-Farm fertilizer use. In the Wekiva basin study discussed in the Summary above (Figure 1), residential fertilizer use is attributed to 42% of the total nitrogen input to the system.

Given the significance of residential fertilizer contribution of nutrients to our watersheds, community concerns and the prevalence of Do-It-Yourself residential landscapers, it is important to acknowledge that homeowners impact on local water quality.

Staff acknowledges that regulation of landscape professionals is much more feasible than individual residences; however the publication of this ordinance with recommendations impacting residences will provide a mechanism to ensure that the citizens of Lee County become aware of water quality impacts and set the frame work for further steps to be taken to manage residential fertilizer runoff. As part of this shift, residential applicators must attend appropriate landscape BMP classes to help them realize the impacts of their actions. The influx of new residents to Florida is 2.5% annually and of the total population of Florida 92.9% is urban with an estimated population of 17,019,068 as of 2003. (USDOE, 2003) Considering the rapid increase to Florida's population and specifically to Lee County, this task will require more enforcement and education. In addition, adding do-it-yourself landscapers to the ordinance will reduce any perceived inequity to the landscape industry.

#1 Options for consideration:

a) **Add a section to the proposed Landscape & Fertilizer Best Management Practices Ordinance** to encourage homeowner attendance to Florida Yards and Neighborhoods best management practices classes.

b) **Recommend/Encourage residential landscapers to comply with same provisions as professionals:** The current proposed ordinance does not have a provision to mandate the same rules for residential (do-it-yourself) and professional landscapers. The current ordinance can be amended to recommend or include compliance or participation to homeowners. If the Board desires to have mandatory enforcement of residential landscapers in the future, there will have to be significant changes made to the existing ordinance. As the DIY landscapers have not been included in the development of the ordinance to date, proper notice to all residential stakeholders will have to be issued and there may be a need for more enforcement staff to accommodate the increased workload.
   The process for developing this ordinance to date has focused on the professional landscape community only. There has not been proper notice given to residential stakeholders to include them in this process. Adding the regulation of homeowners to this ordinance does not change enforceability; however it does increase the population requiring enforcement (level of effort).

c) **Increasing the capacity of current FYN course loads:** This will require more staff to conduct these courses as well as **publicity to get more residents attending these courses.** A budget with options for staffing is in Appendix A below.

d) **Posting information in plain sight at retail establishments, the publication of this ordinance as it will impact residences as well as distribution of educational materials** will also be necessary to gain residential compliance and provide a mechanism to ensure that the citizens of Lee County become aware of water quality impacts and to give them a practical demonstration of what best management practices are and how to use them.

e) **Post-ordinance development of incentives for individual residences to retrofit their yards** meet the Lee County Land Development Code or Florida Yards and Neighborhoods standards will go a long way for water conservation and decreased utilization of fertilizer. Staff recommends utilizing either the Lee County Extension Services Citizen's Advisory Committee or the Charlotte Harbor National Estuary Program's Citizen's Advisory Committee to develop these incentives. The research to gather this information should take approximately six months including cost estimates and detailed descriptions of incentives.

2) **Black-out period for the summer rainy season**; According to the *Florida Green Industries Best Management Practices for Protection of Water Resources in Florida* manual, Peninsular Florida receives approximately 50 inches of rain fall annually and that the greatest nutrient utilization by plants is during the rainy season when the plants are growing. The manual recommendation for the rainy season is "**Do not apply fertilizer when heavy rains are imminent.**" Recently IFAS issued the following clarification of that statement;

> *"There are apparently no official definitions of "heavy rains" or "imminent." However, heavy rain is generally understood as rainfall occurring in a short period of time that can lead to the displacement of soil and mulch and/or cause saturated or near-saturated soils. "Imminent" can be interpreted as rainfall expected within 24 hours. Rainfall amount and pattern during the rainy season may differ from year to year. Not every rainfall in the rainy season is a heavy rainfall. In fact, during some rainy seasons there are periods that are often described as 'mini droughts'. Thus, heavy imminent rainfall may not be forthcoming during a typical rainy season." (E-mail communication from Stephen Brown, 10/12/07)*

As pointed out by Mr. Brown in IFAS's clarification of the meaning of the guidance language for application during the rainy season, there is no certainty when heavy rainfall may occur and given that the probability of heavy rainfall in Lee County may or may not occur uniformly and yet this ordinance would account for Lee County uniformly, a more conservative approach would be to keep the fertilizer "black-out" during the rainy season. There are best management practices to accommodate for no nitrogen and phosphorus fertilizer application during the summer such as application of iron to keep turf grasses green, soil pH testing for improving turf grass nutrient uptake, as well as utilization of slow release fertilizers prior to the rainy season. In addition, the *Florida Green Industries Best Management Practices for Protection of Water Resources in Florida* manual cites that grass clippings are a good source of nutrients when left on turf grasses (p. 19-20). This ordinance does not seek to prohibit this cultural practice.

NOAA (http://www.srh.noaa.gov/mlb/wetdry/WetDrySeason.html) defines the wet season as late May through mid October. Historical data by the SFWMD and the Charlotte Harbor National Estuary Program indicate the wet season being from June to October. (Boswell et al, 2006 and http://www.fgcu.edu/bcw/Rain/History_SFWMD.htm)

This provision has been debated from the perspective of water quality scientists and agronomic scientists. From the perspective of water quality science an important factor to consider is ever increasing impervious cover in Lee County. Impervious cover increases run-off potential and exacerbates water quality problems. "… the Southwest Florida Regional Planning Council projected that urban land use would increase to 35% by 2020... Of the 11 secondary sub-basins in the Estero Bay watershed, seven are estimated to have impervious cover percentages of over 10% based on 1995 land uses (Estero Bay Agency for Bay Management, State of the Bay Report, in press). The ten percent threshold for impervious cover is widely accepted as the level that water

quality in associated surface water systems begins to decline significantly." While many turf grass studies demonstrate a high rate of nutrient uptake (Cisar, 2000) and described by some as a "filtering effect" the minimal run-off that does occur is compounded by the sheer size of our population that is fertilizing not to mention other contributing factors.

#2 Options for consideration:

a) **Keep the summer time 'black-out' period for fertilization in the Lee County proposed ordinance and Include language recommending/encouraging residential applicators to abstain from fertilizer application during the wet season.**

b) **Increase the wet season to 5 months and define it as June 1 to October 30 in the ordinance** rather than the current definition in of July 1 – September 30. Further, while we are unable to anticipate the timing and location of rainfall events, suffice it to say data has demonstrated that we do get an abundance of rain from June to October except under extraordinary conditions. We could also **include language recommending/encouraging residential applicators to abstain from fertilizer application during the wet season.**

c) **Exclude 'black-out' period from the ordinance.** The landscape industry has factually stated that the wet season is the period of the year with the greatest turf grass growth and therefore nutrient utilization. This recommendation however does not consider the increased probability of fertilizer runoff by sheer population size, impervious surface and increased application frequency over the course of the year.

3) **No Mow or Low Maintenance Zone;** There are numerous studies on water resource protection that indicate that riparian buffers (un-maintained vegetated areas) are necessary for habitat health as well as filtration of storm water run-off. The drinking water resources protection plan *Benchmark uniform minimum shoreland buffer width for the protection of New Hampshire surface drinking water sources (2007)* has cited that up to a 300 foot vegetated buffer with no nutrient inputs is required on all natural water bodies to maintain drinking water resources. This is mentioned to demonstrate the relationship between intended water use and the magnitude of buffering that is required to obtain the best water filtration possible. (Bear in mind drinking water standards are higher than those that we need to achieve for recreational uses.) The USEPA's 2005 review of national riparian buffers for water quality protection cites that "State and Federal guidelines for buffer width … varied widely but were generally consistent with the peer-reviewed literature on effective buffer width, recommending or mandating buffers ~7-100 m [23'-328'] wide". The Lee County Land Development Code, Chapter 10 requires a 25' vegetated buffer along all natural, unseawalled water bodies. This same buffer was established by the State of Florida and implemented in the SFWMD Environmental Resource Permitting rules (http://www.dep.state.fl.us/legal/rules/surfacewater/sfreview.pdf) for wetland protection with the basis of rationale to minimize impacts on wetlands from runoff pollution and minimal habitat support.

While a no mow zone many not be practical, a low maintenance zone where grass is allowed to grow longer may be a practical measure for many reasons. The possibility of grass clippings accidentally getting into water bodies is decreased and as demonstrated in studies submitted to the state on turf grass performance that leaving grass longer helps reduce run-off potential, improve water infiltration capacity, and is a more efficient use of available water. (Martinez, 2007)

#3 Options for consideration:

a) Given the rules already established in the Lee County Land Development Code and SFWMD secondary impact rules

(http://www.dep.state.fl.us/legal/rules/surfacewater/sfreview.pdf), a **25' vegetated buffer along natural unseawalled water bodies could be applicable in this ordinance**. This could be a low maintenance area to allow for additional nutrient uptake.
b) **For man-altered water bodies the low-maintenance zone (meaning less mowing, grass is maintained at a longer length) could be 6' from the seawall, riprap or other man-made shoreline.** (A similar criteria has not been formally established for man-altered shorelines.)

4) **Fertilizer Buffer Zone:** County staff's best professional judgment has thus far relied heavily on the *Florida Green Industries Best Management Practices for Protection of Water Resources in Florida*. Bear in mind that it is best professional judgment on the part of the Green Industries Institute that is guiding this best management practice and the rationale to formulate it is not guided by science as there have not been specific scientific studies to prove the buffer size effectiveness for water quality protection along man-made shorelines. The proposed ordinance requires the use of a deflector near all water bodies. If the ordinance were to remain in keeping with the *Florida Green Industries* manual, Lee County would allow fertilization within 3' of a waterbody. (The Florida Green Industries manual recommends 10' without a broadcast spreader deflector and 3' with deflector.) As mentioned above, the 2005 USEPA research for water quality and habitat protection cites that buffers ranging in size of 23' to 328' in width are necessary for proper filtration for surface and subsurface flows. Considering the dire conditions of water quality in our area a conservative approach is prudent and larger buffers than in the currently proposed ordinance should be enforced.

   The landscape industry's argument opposing a larger "No Fertilizer Buffer Zone" is that it is difficult to adhere to inconsistent standards from one municipality to the next. This is understandable and to remain consistent with other municipalities Lee County could choose a path consistent with other local efforts to create a regional standard. The *Florida Green Industries Best Management Practices for Protection of Water Resources in Florida* is a well thought out document constructed by scientists and agronomic experts however the local water resources are declining at an alarming rate and there are development standards (Lee County Land Development Code), USEPA peer reviewed standards () as well as the Florida Administrative Code 40D-40.301f (environmental resource permitting rules) in place as well as scientific data collected demonstrating the need for large vegetated buffers for nutrient uptake to mitigate nutrient runoff pollution (Nelson, 2007). The above referenced manual is a five year old standard that may have to be compared to current development standards periodically and revised to maintain consistency within Lee County and hopefully Southwest Florida.

   #4 Options for consideration:
   The recommendation given by the Southwest Florida Regional Planning Council is a 25' no fertilizer buffer zone which the City of Sanibel has adopted. This buffer is consistent with Lee County Land Development Code. For the sake of maintaining consistency **Lee County could also adopt a 25' no fertilizer buffer zone for increased pollution runoff protection**.

5) **Section 8, A(2) Damaged Turf and/or Landscape Plants:** This exemption requires documentation of the cause and treatment of damage to Lee County staff upon request. This documentation provision was added to supply the County with the necessary authority and opportunity to enforce the ordinance and allow professional landscapers the latitude to exercise best professional judgment. Many community members including members of the

Board of County Commissioners are concerned that this still provides too much of a "loop-hole" that can be abused.

#5 Options for consideration:

a. **Re-writing the exemption to require replacement of the damaged turf area** with fertilization on the new turf allowed if documentation can be provided. This option will still, however allow fertilization during the summer to the same extent that it currently exists in the ordinance due to the "New Turf" exemption.

b. Eliminating the exemption: This would preclude all fertilization during the time of the year that fertilizer has the greatest runoff potential. This does not however allow the option for landscapers to fix damaged areas.

c. Re-writing the exemption to include language as follows: "Fertilizer shall be used as a remedy of last resort for repairing damaged turf grass or landscape plants. In the event that fertilizer must be used during the wet season, the landscaper must provide documentation upon staff request that includes all of the previous and unsuccessful methods used to attempt to remedy the damaged turf or plant."

6) **Slow Release Nitrogen Fertilizer Requirement:** As discussed in the Summary section and in the discussion of a "Black-out" period above, the requirement of slow release nitrogen fertilizer would be a prudent best management practice to accommodate for no nitrogen and phosphorus fertilizer application during the summer to the rainy season. The industry currently has fertilizers available with 50% and 70% slow release mixtures. The difference between the 50% and 70% slow release fertilizers is that the 70% formula will have less readily available (quick release) nitrogen per application than 50% slow release fertilizer. It is worth noting that the 50% slow release fertilizer mixtures are currently more common in the market place than the 70% slow release products. Both have the same runoff potential so there is no increased benefit with a higher slow release content with regard to protection during rainfall events. The benefit comes with how much nitrogen will be available to the grass at a later time and the decreased number of applications that would be required over the course of a year.

There are also a variety of slow release formulas available that do not necessarily rely on rainfall to active them. Some are activated by microbial interaction, some by heat and many by rain. There is no guarantee that slow release fertilizers will not runoff depending on where it is applied, severity of rainfall, health of the grass stand, slope of the land, proximity to waterbodies and wetlands and other factors but it does encourage fewer applications per year due to how the fertilizer is released over time. Some slow release fertilizers will provide four months of nitrogen release and others up to six months.

#6 Options for consideration:

a) Require 70% slow release fertilizer be applied in Lee County by professional applicators and recommended/encouraged for application by residential applicators.

b) Require at least 50% slow release fertilizer be applied in Lee County by professional applicators and recommended/encouraged for application by residential applicators.

CONCLUSIONS/SUMMARY

Approaching any issue scientifically requires multiple lines of evidence and weighting that evidence with the most critical implications. The options above were made after hours of consideration and research, much of it not providing very clear direction. The common factors among most of the research pointed to hydrologic impacts on nutrient runoff and whether a turf grasses or any plant demonstrated "insignificant" leaching or runoff in a study, 0.9% (Bowman et al, 2002) of 2 million tons per year (Martinez, 2007) in Florida is still 18,000 tons of nitrogen that is making its way into our watersheds. The 0.9% figure is under research specific conditions and one cannot assume that this would be a real-world result. As cited in the Wekiva Basin study above residential fertilizer use constitutes 42% of the nitrogen observed in real-world findings.

The practice of fertilization was not widespread until the 1970's when agriculture began implementing it. Shortly after a long drought in the 1970's broke and ample rain fell, NOAA observed "dead zones" in the Gulf of Mexico and up the eastern seaboard. It is know widely accepted in the scientific community that "dead zones" are a symptom of nutrient pollution (NOAA 1999, 2000).

Lee County is facing TMDLs in almost every basin in the County and the implications of a growing population do not promise to improve that decline that we have all seen first hand. The options provided in this white paper are based on years of data collected by Lee County, months of research and staff's best professional judgment with an emphasis on water quality protection.

On a final note; the Board of County Commissioners recently approved funding for a nitrogen source tracing study because of the recognition that we need to more conclusively identify the contribution of non-point source pollution factors in Lee County. (CN-07-14 IDENTIFICATION OF NON-POINT SOURCE NUTRIENT & FECAL COLIFORM CONTRIBUTORS IN LEE) Lee County has been funding research for determining causes of harmful algal blooms (Dr. Larry Brand and Dr. Brian Lapointe, 2006) that has shown that Lee County has a nutrient pollution problem that is not limited to one source. Lee County has also shown a commitment to encouraging the citizenry to use our local water ways by endorsing outdoor activities through resolutions such as that recently passed on October 23, 2007 for the Calusa Blueways program. This level of commitment to identify and resolve our pollution problems as well as promoting use of our waterways should be followed up with a similar effort to enforce every effective measure to rectify nutrient pollution in our County.

A summary of the options for consideration from the "Background/Discussion" section are below:

1) **Options for inclusion of residential landscapers/consumers in the ordinance: (Pick as many as are applicable.)**

    a. **Staff recommends adding a section to the proposed Landscape & Fertilizer Best Management Practices Ordinance**
    b. **Recommend/Encourage residential landscapers to comply with same provisions as professionals**
    c. **Increasing the capacity of current course loads and publicity to get more residents attending these courses**

d. **Posting information in plain sight at retail establishments, the publication of this ordinance as it will impact residences as well as distribution of educational materials.**
e. **Post-ordinance development of incentives for individual residences to retrofit their yards**

2) Black-out period for the summer rainy season:

a. Keep the current wet season 'black-out' period for fertilization in the Lee County proposed ordinance and Include language recommending/encouraging residential applicators to abstain from fertilizer application during the wet season.
b. Increase the wet season to 5 months and define it as June 1 to October 30 Include language recommending/encouraging residential applicators to abstain from fertilizer application during the wet season.
c. Exclude a 'black-out' period from the ordinance.

3) No Mow or Low Maintenance Zone :
a) **25' vegetated buffer along natural unseawalled water bodies could be applicable in this ordinance** in accordance with SFWMD Environmental Resource Permitting rule and Lee County Land Development Code.
b) **For man-altered water bodies the low-maintenance zone (meaning less mowing, grass is maintained at a longer length) could be 6' from the seawall, riprap or other man-made shoreline.**

4) Fertilizer Buffer Zone:
The recommendation given by the Southwest Florida Regional Planning Council is a 25' no fertilizer buffer zone which the City of Sanibel has adopted. This buffer is consistent with Lee County Land Development Code. For the sake of maintaining consistency **Lee County could also adopt a 25' no fertilizer buffer zone for increased pollution runoff protection**.

5) Section 8, A(2) Damaged Turf and/or Landscape Plants:
a. **Re-writing the exemption to require replacement of the damaged turf area** with fertilization on the new turf allowed if documentation can be provided. This option will still, however allow fertilization during the summer to the same extent that it currently exists in the ordinance.
b. Eliminating the exemption
c. Re-writing the exemption to include language as follows: "Fertilizer shall be used as a remedy of last resort for repairing damaged turf grass or landscape plants. In the event that fertilizer must be used during the wet season, the landscaper must provide documentation upon staff request that includes all of the previous and unsuccessful methods used to attempt to remedy the damaged turf or plant."

6) Slow Release Nitrogen Fertilizer Requirement staff options (Please select one.)
a. Require 70% slow release fertilizer be applied in Lee County by professional applicators and recommended/encouraged for application by residential applicators.

b. Require at least 50% slow release fertilizer be applied in Lee County by professional applicators and recommended/encouraged for application by residential applicators.

APPENDIX A – BUDGET FIGURES FOR STAFFING

On September 10, 2007, the Board gave direction selecting the following funding option for a staff person to enforce the proposed ordinance.

Option 1: If the fee is set at $45 fees will cover $109,500 of the program costs in year one. This amount is based on the fifth year projected cost divided by the number of business tax receipts on file with the Lee County Tax Collector's office. This position would have to be partially funded for the remaining shortfall may be $20,000-$70,000 for the first year (the start-up period) while DNR makes contact with all of the landscape companies and obtains compliance. Once the program is established it would be self-funding up to the fifth year. Two possible funding sources to supplement the first year's short fall are either the General Revenue or the Unincorporated MSTU accounts. This option would be slightly lower-cost to the landscape businesses than if we relied on the fees for 100% funding for the first year and we may be able to get the program up and running more quickly under this structure. The negative aspect to this option is that we are currently facing budget cuts county-wide.

Figure 3. Budget for New Staff Positions

Budget Item	Base Cost	Average Multiplier	Maximum Cost - Year 1	Inflation Multiplier (+ 6%)	Max Cost - Year 2
Vehicle	30,000.00		$30,000.00		
Computer	3,200.00		$3,200.00		
Office Space Setup	3,600.00		$3,600.00		
Phone Setup	1,533.00		$1,533.00		
Subtotal - One Time Costs			$38,333.00		
Salary (base)	39,283.00	1.2	$47,139.60	1.06	$49,967.98
Benefits		0.4	$18,855.84	1.06	$19,987.19
Fleet Maintenance (Vehicle)	12,000.00		$12,000.00	1.06	$6,634.54
IT Services	6,259.00		$6,259.00	1.06	$1,242.32
Cell Phone	1,172.00		$1,172.00	1.06	$1,242.32
Self Insurance - Auto	726.00		$726.00	1.06	$769.56
Indirect Costs	2,743.00		$2,743.00	1.06	$2,907.58
Administrative Fees - Utilities	892.00		$892.00	1.06	$945.52
Subtotal - Recurring Costs			$89,787.44		
Total - One time & Recurring Costs			$128,120.44	Total - Year 2	$83,697.01

APPENDIX A – BUDGET FIGURES FOR STAFFING (Continued)

Florida Yards & Neighborhoods Program Assistant

In order to provide education for residential landscapers, Lee County Extension Services will require at least two new full-time positions to plan, develop, teach, implement, and evaluate the FYN environmental education and natural resources program for homeowners, home and condo associations, citizen's associations, community drainage districts and other entities not required to obtain certification through Lee County Extension Services for professional work. In particular, the position will promote conservation of water resources, coordinate the Florida-Friendly landscape recognition program for residents and expand community-wide adoption of Florida-friendly landscaping practices into rapidly growing eastern areas of Lee County. The FYN program assistant will also educate building professionals, realtors and community association members living in new communities or neighborhoods in Lee to use sustainable landscaping practices when designing, planting and maintaining residential lawns and landscapes.

The budget in Figure 3 above is applicable to each of these positions. The source of revenue will have to come from a combination of IFAS and Lee County cost sharing. Most likely Lee County will have to contribute funds from General Revenue for salaries. The South Florida Water Management District, Florida Department of Environmental Protection and the University of Florida are possible funding partners who have worked with Lee County and other stakeholders in the past on public education. In the event that the SFWMD, UF or FDEP are willing to be funding partners a possible "value added" incentive would be to offer part of the time from these positions to provide similar services in Hendry County. Currently Hendry County does not have residential outreach support and could benefit. Lee County would also benefit from this because Hendry County is upstream and is also a contributor to Lee County's watershed. Based on the budget in Figure 3 above the total cost for staff for the first year will be $256,500 and $167,400 each year for four years thereafter. The Lee County Extension Services program is able to provide in-kind match at this time for the administrative costs of these positions. In the event that no funding partners can be found **Lee County may have to fund $244,450 for the first year and $81,806 each year for the four years thereafter.** Possible funding sources would be from either the MSTU or General Revenue funds. Staff have attempted contacting the possible partners identified above on numerous occasions and are still requesting funds. There has been no assistance for further funding granted to date.

In addition to staff costs, the County must anticipate the cost of publishing educational materials to give to homeowners and for distribution at retail outlets. The current recommended fee for Florida Yards & Neighborhoods is $25 per person. This fee covers the materials for each attendee. The University of Florida can subsidize some of the cost for this course such as facilities and administrative resources. Any materials outside of the FYN course will have to be funded. The budget for printing materials to provide to homeowners in retail outlets and in public forums such as the SWFL Fair, etc is approximately $20,000. Possible funding sources would be from either the MSTU or General Revenue funds.

APPENDIX B – REFERENCES

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APPENDIX C – WRITTEN PUBLIC COMMENTS

From: Alan Shaffer / GOMULCH.COM [mailto:ashaffer@gomulch.com]
Sent: Monday, July 23, 2007 2:35 PM
To: Bickford, Karen
Subject: RE: Confirming today's meeting

COMMENTS ON LEE COUNTY PROPOSED ORDINACE:

Lee County should be in sync with such 2007 new fertilizer labeling criteria and rules recently adopted by Florida Department of Agriculture and Consumer Services on phosphate (nitrogen to follow). The key on the DACS phosphate rule is reducing P to 2% as a maximum but allowing for exception for newly planted lawns or landscape. That will make the ordinance reasonable.

I suggest to add provisions for exceptions for fertilizers containing nitrogen and phosphate to be used ONCE and ONLY ONCE in the restricted season on newly planted or newly established lawns or plants.

In a nutshell, I suggest 3 months restricted applications of nitrogen and phosphate unless:

(1) Proven deficient and needed by soil tests and

(2) Newly planted or newly established plantings would permit ONE application in the restricted period of Nitrogen and phosphate in fertilizers only once on newly planted or newly established turf or landscape if planted during the restricted period. No nitrogen or phosphate would be permitted during the 3 month restricted period on established plantings or landscape

(3) BMP on fertilizer labeling: I also to suggest mandating that BMP for fertilization be included on every label of every turf fertilizer sold at retail to educate the consumer on proper use of nutrients (away from water, not in the rainy season, Low or no P, reduced soluble fast release urea nitrogen, not on impervious service etc)

Additionally ,Please see comment below re language from the attached proposed Lee County ordinance.

First -- On "Fertilizer shall not be applied at a rate greater than one (1) pound of nitrogen per 1,000."

The below from Dr Sartain Turf specialist IFAS (General Recommendations for Fertilization of Turf grasses on Florida Soils [1] J.B. Sartain[2] IFAS Florida Extension Publication on Fertilizer Application to Turf ….May/07 just published that rate can be .50 lb of N per 1000Fertilizer Application This is a direct quote from the newsletter:" In the past, it was customary to recommend the application of 1 pound of actual nitrogen per 1000 square feet of turf grass. In light of potential environmental concerns it is now recommended that no more than one half (0.5) pound of the nitrogen in the application be in the soluble form. Thus in order to make an application of 1 pound of actual nitrogen per 1000 square feet of turf grass you would need to use

a blended fertilizer product containing no more that 50% of the total N in soluble form with the rest of the nitrogen originating from a slow-release N source" Most fertilizers are applied at a rate determined by the type and amount of nitrogen present in the material. Nitrogen is the nutrient most used by a turf grass and often the material that burns the turf grass if applied at excessive rates.

While single fertilizer applications in the fall and spring will often suffice, fertilizers **shall not be applied more than six (6) times during any one (1) calendar year to a single area**

Secondly-- On "six times per year applications" I suggest twice per year which according to the IFAS news letter can be sufficient

As I read the IFAS newsletter, TWO applications can suffice. See below for Central FL St Augustine Grass:
Maintenance has three (3) levels: Basic, Moderate, High. Basic Maintenance they recommend **two(**2) "C" Complete applications, 50% soluble & 50% slow release N in **March** and **Sept ;** and July an Iron (Fe) application.

P5 Supplemental Iron Application
"Fertilization with N (Nitrogen) in the summer is not always desirable since this often encourages disease and insect problems. Many times the addition of iron (Fe) to these grasses provides the desirable dark green color, but does not stimulate excessive grass growth which follows N fertilization."

.

CONSIDER ADDING THIS LANGUAGE

On established turf or established ornamental landscape plants the level of phosphate and nitrogen permitted to be applied during the restricted period shall be zero on any guaranteed analysis on any and all fertilizer applied at anytime on any property located within the limits of the county., with the only exception for any N or P application on established plants, in the restricted period shall be if a soil and leaf analytical test prove deficiency in phosphate and or nitrogen and this is confirmed in writing by an IFAS professional Extension personnel or other professional soil testing lab

New plantings are exempted as below in Establishment of new plants of turf or ornamentals. On newly planted turf or ornamentals ,defined as plants being planted into the landscape for the first time, a low level of nitrogen and phosphate shall be permitted to be applied but only in the first fertilizer treatment after planting. However the level of phosphorous shall never exceed 2 % phosphate in any fertilizer product applied.

Applicators are encouraged to become educated on widely used controlled (slow)release fertilizers used by the professional horticultural industry in the State of Florida as to best available slow or controlled release fertilizers which can be applied in the Spring and which can efficiently fertilize plants during the rainy season.

The highest quality turf grass is not necessarily the darkest green or most rapidly growing turf grass, but the turf grass that has acceptable color and density without excessive growth. Excess N application can lead to a dark green turf grass that is growing at excessive rates which will

require more frequent mowing and possibly result in contamination of the ground water with nitrate nitrogen.

Alan Shaffer
Vice President, Sales/Marketing
Direct **239-425-1150**
Mobile **239-872-8882**
Fax **239-334-4602**
Email **ashaffer@gomulch.com**

Visit us at www.gomulch.com!

From: Alan Shaffer / GOMULCH.COM [mailto:ashaffer@gomulch.com]
Sent: Tuesday, July 24, 2007 2:35 PM
To: Bickford, Karen
Subject: Today's Meeting

Thanks so much for the invitation to participate.

In sitting within the meeting and gaining a greater understanding and appreciation for what you do, I believe that simplified versions promote compliance and moves the masses to your ultimate goal...reduced nitrogen and phosphate loads. Two means of this...

- one is the reduction of applications - (2-4-6)...I recommend 2 relative to **nitrogen**. It automatically increases the quality of the fertilizer, e.g. enhanced slow release, or staged/controlled release.
- second is a limit or cap of the primary nutrient, such as done with phosphate...now limited to 2% per formulation. (As example in Sanibel...20%, but the state will probably be more stringent).

Please review the previous email for greater definition.

We at Forestry Resources are also committed to promoting the licensing and application process and the City Ordinances to help promote adherence.

Thanks again.

From: Bickford, Karen
Sent: Monday, July 30, 2007 2:12 PM
To: Schneck, Jed R.
Cc: Harclerode, Kurt; Pellicer, Tony; Brown, Stephen H.
Subject: Sierra Club comments on Proposed Fertilizer Ordinance

Jed,
I just wanted to keep you apprised of the meeting that Kurt, Tony and I had with the Sierra Club earlier today. The draft ordinance was well received. The representatives that showed up to the meeting made few recommendations. I will pass these along to you, however I will defer to your judgment on most of it;

1) Ellen Peterson suggested that the County ban the sale of fertilizer during the rainy season as we have a prohibition in the ordinance for application during the rainy season any way. Tony explained that a whole-sale ban would be difficult being that there are exceptions to the ordinance that allow for new plantings. Do you have any thoughts on this recommendation?

2) John Swingle recommended that we do not have an exemption for landscapers who are non-applicators for the education program in order to keep enforcement simple. He maintained that it is better to expect all landscape businesses to comply with the ordinance if there is the possibility that they could apply fertilizer just due to the fact that this is a "tool" that landscapers could use even though they don't use necessarily use it. Any thoughts? It seems to make sense to me, but I'd like your input.

3) John also recommended that we name home owner's associations as required entities for compliance under the ordinance because they usually hire individuals to service a variety of needs which often includes landscape/fertilizer application work. Is this feasible? I would be amenable to adding this as a group provided there are no problems with it.

4) Ellen recommended adding verbiage to the ordinance that would eliminate grass clippings from the water bodies and storm water system. Tony recommended language under the "Buffer" section to the effect that; "…no lawn or landscape clippings shall be discharged into adjacent water bodies or impervious surfaces" along with the restriction on direct application of fertilizer to these areas. This seems to be reasonable and I recommend adding it if you see no problem.

5) Ellen recommended renewal of the certification on a 3 year interval rather than a 2 year interval. Her rationale was that it may be harder to get compliance if the task of getting certified is too onerous. She also mentioned aligning the certification/renewal interval with the State's pesticide application renewal cycle to help the people who apply pesticides and fertilizer streamline their licensure/certification tasks. This is really more of a question for Stephen… Does this make sense?

Please incorporate these comments where applicable and if they are in agreement with the current ordinance language. Please let me know where we can and cannot accommodate their requests and why. Thanks again for all of your hard work!

Regards,

Karen Bickford
Lee County Natural Resources
TMDL Coordinator
1500 Monroe Street,
3rd Floor
Fort Myers, Fl 33901
Ph: 239-533-8706
Fax: 239-485-8108
kbickford@leegov.com

From: Alan Shaffer / GOMULCH.COM [mailto:ashaffer@gomulch.com]
Sent: Thursday, August 16, 2007 12:52 PM
To: Bickford, Karen
Subject: A new study for your review, (correlation of urea and impact in Gulf of Mexico)

Interesting to read...and current information. The correlation is that agricultural-horticultural urea based products are contributing to deteriorating conditions in Gulf of Mexico...or at least that's how I read it.

The key aspect of ***controlled*** release fertilizer is that the nitrogen stays at/with the plant during a long period of time in which the landscape can process available nutrients, versus the slow release, but uncontrolled aspects of sulfur coating. In terms of application rates alone...it gets cut in HALF. We think that is valuable and consistent with environmental advocacy.

Thanks in advance for taking the time to look through this study.

Alan Shaffer
Vice President, Sales/Marketing
Direct **239-425-1150**
Mobile **239-872-8882**
Fax **239-334-4602**
Email **ashaffer@gomulch.com**

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From: Becker, Thomas
Sent: Wednesday, August 22, 2007 9:34 AM
To: Mary McAuliffe; Bickford, Karen; Pellicer, Tony; Beckford, Fitzroy B.; Hazell, Joy; Brown, Stephen H.; Hill, Celia B.; capece@southerndatastream.com; John Cassani; Amy Shober (alshober@ufl.edu)
Cc: Becker, Thomas
Subject: FW: Century Commission Meeting Materials

Natural Resource contacts:

FYI. If you get a chance, take a quick look at Pierce Jones presentation up-coming to the century commission of Sustainable Florida.

. https://www.commentmgr.com/projects/1148/docs/JonesPres.pdf

In particular, see **slide 50……** "If all Florida homes permitted in 2005 follow conventional landscape practices, annual nitrogen consumption will increase by roughly 4,000,000 lbs/yr, which translates into 800,000 50# bags or 20,000 tons. The aggregate retail cost to homeowners is roughly $7,000,000 (or around $35/yr/household)."

On **slide 49**, he also shows an example of what happens in nitrogen loading if a pine plantation is converted to residential using low intensity (low fertilizer, Florida-Friendly) landscapes.

His summations would be extremely compelling material to share with policy-makers locally. Do we have any fertilizer consumption rates for Lee County?

Tom Becker
Florida Yards & Neighborhoods
Lee County

From: Becker, Thomas
Sent: Wednesday, August 22, 2007 2:28 PM
To: Bickford, Karen; Brown, Stephen H.; Pellicer, Tony; Beckford, Fitzroy B.; Hazell, Joy; Harclerode, Kurt; 'alberto.chavez@dep.state.fl.us'
Cc: Hill, Celia B.; Schneck, Jed R.; Becker, Thomas
Subject: RE: Sanibel BMP Ordinance Proposed Change

Karen and Stephen:

I support changing to 50% when using professional turf products. Our FYN guide will still recommend for homeowner use 30% slow release or higher. That's because most products in the big box stores have less than 10% slow release already. Originally I thought I had heard a 70% slow release product was almost impossible to blend. Another reason, 70% slow release N dramatically increases the cost and on current application schedules doesn't provide as much benefit as using the 50% grades. The ordinance shouldn't be a disservice to the landscape industry.

Those professional fertilizer products I've seen that are 70% or higher are ones that are **custom blended** for use in up-scale and green, planned communities. The availability is still an issue for 70%. Industry supports going to 50%.and product already available commercially. Lesco has a 12-2-14 fertilizer (only one product right now) to sell with 70% slow release. They have several grades at 50% or slightly higher (16-0-31, 15-5-15, 16-0-8, 16-2-16, etc.). Palm fertilizers should be all slow-release product but I few their use as supplemental to turf product use.

I'm wondering if there is a need for resolving the issue of how much slow release in an organic fertilizer. I believe the current thinking is they cannot be used as a substitute for a fertilizer that is labeled slow-release. Only fertilizers with water insoluable nitrogen or coated or chemically altered sources of fertilizer are considered slow release. Right?

Tom

Thomas Becker, Extension Agent II
Florida Yards & Neighborhoods Program
IFAS/University of Florida
3406 Palm Beach Blvd.
Fort Myers, FL 33916
Work – 239-461-7515
Cell – 239-770-8642
Fax – 239-461-7501

From: Alan Shaffer / GOMULCH.COM [mailto:ashaffer@gomulch.com]
Sent: Tuesday, September 18, 2007 11:31 PM
To: Bickford, Karen
Subject: Word on the street.

Hello Karen, I hope you are well and enjoyed the Summer. Just thought I would pass along some recent comments that are floating in the industry. I was at the Turf Show in Bonita Springs last Thursday and Friday, and met with two different lawn care operators and maintenance contractors, as well as one of the local fertilizer producers.

I'm sorry to pass along that most opinions considered the current status of the Lee County fertilizer ordinance neutered, much to their glee.

Basically the key restrictions instituted by Sarasota County were watered down...from what I am told, please correct me if I am wrong. Here's what was lost:

- June 1 - September 30 restricted season;
- Phosphorous application rate,
- % slow-release nitrogen and nitrogen application rate;
- NO damaged turf exemption;
- and NO exemption from certification requirements.

The consensus from those I have heard from is that there is very little that will change from how applications, rates and volumes are currently implemented.

Please let me know if this is information you'd rather not have, or I shouldn't provide. Thanks. If there is any information I could provide out of Sarasota (please let me know), such as:

- Twenty -seven 27 Organizations including Sarasota Manatee Area Manufactures Association supported Sarasota County Proposed Ordinance to reduce nutrient pollution
- Consumer Fertilizer Task Force; Proposed Consensus Guidelines

http://consensus.fsu.edu/fertilizer-task-force/index.html

Alan Shaffer
Vice President, Sales/Marketing
Direct **239-425-1150**
Mobile **239-872-8882**
Fax **239-334-4602**
Email **ashaffer@gomulch.com**

From: ABC123PEST@aol.com [mailto:ABC123PEST@aol.com]
Sent: Thursday, September 20, 2007 8:17 AM
To: btj221@yahoo.com
Cc: Brown, Stephen H.; CERTIFIEDPESTCON@BELLSOUTH.NET; CPALMER@SFWMD.GOV; DubberD@doacs.state.fl.us; agr8lyfe@earthlink.net; Dist2, Bigelow; Dist3, Judah; CJacobson@bug.com; JAY.AREND@CITYOFBONITASPRINGS.ORG; jim_thorpe76@yahoo.com; FTMYERSPC@EARTHLINK.NET; INFO@LARUEPEST.COM; Letr@ufl.edu; Natnicmar@aol.com; MICKEY.NOLEN@NOZZLENOLEN.COM; PETEPEST@SUNLINE.NET; RYANK2005@HOTMAIL.COM; NLibr10695@aol.com; bonitav@bensonsinc.com
Subject: Fwd: IT's NOT THE FERTILIZER IT's THE WAY YOU PUT IT OUT ! ! !

IT'S NOT THE FERTILIZER IT'S THE WAY YOU PUT IT OUT AND IT'S THE WAY YOU CLEAN IT UP

-----Original Message-----
From: THEBUGBOSS@aol.com [mailto:THEBUGBOSS@aol.com]
Sent: Thursday, September 20, 2007 5:36 AM
To: ABC123PEST@aol.com; NLibr10695@aol.com; Santella, Erica M
Subject: Please feel free to use these to show the counties in Fla who we need to educate

Nick,Erica

These pictures were taken the afternoon following our meeting with Lee County we should show them who needs to be educated on BMP's at the next meeting with them.
Ft Myers City Hall Parking area.

Example of Non Point Source Pollution
City Of Ft Myers "City Hall" Pictures taken day of Fertilizer ordinance Meeting with council.

This is an example of why we should approve BMP's in Florida We need to focus our efforts on educating the Home Owners and City Employees on the BMP's of Fertilizer Not the Certified Professional.

Use a Dacs Licensed Pest Control Company that is certified in and uses the BMP's of Fertilizer
Tony Salerno (Tony's Pest Control Inc)

From: Chavez, Alberto [mailto:Alberto.Chavez@dep.state.fl.us]
Sent: Friday, September 28, 2007 10:00 AM
Subject: FW: Irrigation Rule and Exemptions

The following is an actual inquiry e-mailed to the Web Master of the SJRWMD; it provides interesting [amazing] insight into the landscaping cultural issues contributing to non-point source pollution:

Good Morning

I live in a sub-division which is part of unincorporated Lake County and falls under the SJRWMD. I follow the rule of twice a week, Wednesday and Saturday but also follow and use the 3 exceptions to the rule listed below.

- Watering in of chemicals, including insecticides, pesticides, fertilizers, fungicides and herbicides when required by law, the manufacturer, or best management practices, is allowed anytime within 24 hours of application.
- Irrigation systems can be operated anytime for maintenance and repair purposes, not to exceed 10 minutes per hour per zone.
- Irrigation using a hand-held hose equipped with a spray nozzle that can be adjusted so water flows only as needed is allowed anytime.

I cut my yard 2-3 times a week (7 day period) and use one of the following **after each cut to keep it free and healthy (insecticide, fertilizer or disease control), the manufacturers use requires me to water in the product, so that's what I do.** I also use a hand-held hose for hot-spots and adjust/clean the sprinkler heads weekly. In addition, my house sits on a 1/2 acre with allot of sod and I believe the soil and sod may have issues; PH factor and Floratam (many weeds/crab-grass) which helps to create excessively dry/dead spots.

Can you verify that my use of the 3 listed exemptions is authorized per SJRWMD, important that I'm not breaking any rules.

Look forward to your assistance in this matter.

Sincerely;

CMG

From: Phil Buchanan [mailto:coolcherokee@comcast.net]
Sent: Monday, October 08, 2007 2:42 PM
To: Bickford, Karen; abc123pest@aol.com; racklea@doacs.state.fl.us; Becker, Thomas ; Beckford, Fitzroy B.; blarson@ifas.ufl.edu; fishingbob@comcast.net; Charles Sobczak; Chavez, Alberto; Cullum Hasty; dubberd@doacs.state.fl.us; Don Chaney; Don Eslick; elindblad@sccf.org; Ellen Peterson; erica_santella@landcare.com; jcassani@comcast.net; JenniferH@conservancy.org; Jim Beever; jspratt@fngla.org; ltrenholm@mail.ifas.ufl.edu; lbeever@swfrpc.org; llyoung2@earthlink.net; lpadgett@florikan.com; mapar@att.net; mhartney@ffaa.org; maryrawl@comcast.net; mbdempsey@gmail.com; Mick Denham; Mike Holsinger; pagem@doacs.state.fl.us; Mike Valiquette; naturalresourceconsulting@hotmail.com; Nora Demers; certifiedpestcon@bellsouth.net; Pete Quasius; Pigott, Tamara W.; rawessel@sccf.org; rjoyce@kitsonbabcock.com; stuart.decew@sierraclub.org; tigo@sancaptrustco.com; moevali@comcast.net; info@purre.org
Subject: Re: FW: Fertilizer Ordinance

Karen,

Thank you for distributing the copy of the draft Lee County fertilizer ordinance. I hope to attend the 16 October public meeting, but may not be able to do so. I therefore would like to respond to you (as you suggested in your email).

I applaud the draft ordinance. It's definitely a step in the right direction, however, it does not go far enough. The recently enacted Sanibel and draft Sarasota ordinances (I'm not sure whether the latter has yet been enacted) on this same subject clearly restricted the overuse of fertilizers by everybody within their jurisdictions. The draft Lee County ordinance however appears to only restrict overuse of fertilizer by professional landscapers.

Surely, the overuse of fertilizers by the general public (particularly single family homeowners) exceeds the overuse of fertilizers by professional landscapers, and contributes more excess nutrients to our water bodies. I think the ordinance should be expanded to clearly include non-professionals as well.

I realize that overuse and runoff of fertilizer by farmers is regulated by SFWMD and cannot be regulated by Lee County in this ordinance or other wise. However, in the Pine Island area, palm farms are our major source of fertilizer runoff into Matlacha Pass and Pine Island Sound. We need to enact this ordinance, and then we need to lobby the SFWMD to better do their job.

Thank you for the opportunity to comment on this very important matter.

--
Thanks,
Phil Buchanan
coolcherokee@comcast.net
Phone/Fax: 239-283-4067
cell 239-789-6118
3861 Galt Island Avenue
St James City, FL 33956

From: M Daltry [mailto:martisd@comcast.net]
Sent: Thursday, October 11, 2007 6:09 PM
To: Dist1, Janes; Dist2, Bigelow; Dist3, Judah; Dist4, Hall; Dist5, Mann
Cc: Bickford, Karen
Subject: Lee County Fertilizer Ordinance-technical recommendations

Dear County Commissioners,

Although you have hard copies of the attached documents, I thought you could use electronic copies as well for sharing with your staff.

Ms. Bickford is also copied on this so she can share these documents with her department.

Warm Regards,
Marti Daltry
Regional Community Organizer
Sierra Club - Ft. Myers

October 10, 2007
Lee County Board of County Commissioners
Bob Janes, Chair
Brian Bigelow
Ray Judah
Tammy Hall
Frank Mann
Old Lee County Courthouse
2120 Main Street
Fort Myers, FL 33901

Re: LANDSCAPE AND FERTILIZER MANAGEMENT PRACTICES ORDINANCE

Dear Honorable Commissioners:

The undersigned organizations and the many citizens we represent want to thank you for your leadership in the march toward a sustainable approach to the management of this county's natural resources. A strong *Landscape and Fertilizer Management Practices Ordinance* will be a meaningful step in the right direction and we are committed, as you are, to ensuring the efficacy and viability of this new ordinance. In as much, we hereby submit our technical recommendations related to the Proposed Ordinance. In the attached document you will find both our recommended actions and the rationale for each of those recommendations. We have set forth our positions on the following issues:

1. Restricted Rainy Season Duration;
2. Applicability: Professional, Institutional and Non-Professional Landscapers;
3. Registration, Training and Certification of Landscapers;
4. Fertilizer Content and Application Rate;
5. Buffer/Fertilizer-Free Zones;
6. Mode of Application: Deflector Shields;
7. No Mow/Low Maintenance Zones;
8. Public Education;
9. Exemptions: "Damaged Turf;"
10. Enforcement; and
11. Definitions

We have spent considerable time and effort in order to present these recommendations in a manner that should assist you in your work to complete the language of the ordinance. We appreciate your consideration of our recommendations and would welcome your response in the form that is most convenient for you.

Thank you again for understanding how important fertilizer management is to the health and future of our county's citizens, environment and economy.

Sincerely,

Ellen Peterson
Calusa Group of the
Sierra Club
Marti Daltry
Caloosahatchee River Citizens
Association/River Watch
Pete Quasius
Audubon of Southwest Florida, Inc.
Jennifer Hecker
Conservancy of Southwest Florida
Kirk Woodbury
PURRE
Nora Demers
Responsible Growth Management
Coalition
Ericka D'Avanzo
Surfrider Foundation

TECHNICAL RECOMMENDATIONS REGARDING PROPOSED

LANDSCAPE AND FERTILIZER MANAGEMENT ORDINANCE

Submitted by: Calusa Group of the Sierra Club, Conservancy of Southwest Florida, Audubon of Southwest Florida, Caloosahatchee River Citizens Association/Riverwatch, Responsible Growth Management Coalition, PURRE and Surfrider Foundation

1. Restricted Rainy Season Duration

Recommendation: Establish the restricted period for application of fertilizers containing nitrogen and/or phosphorus from **June 1 through September 30.**

Background/Rationale: The traditional rainy season in terms of rainfall is from June 1 to September 30. Average rainfall in Lee County during this 4-month period is 35.3 inches of 53.5 inches received yearly, representing 66% percent of the annual total. Average rainfall in June is 9.5 inches, or 27 percent of an average rainy season. Therefore, exempting June does not make sense. The ordinance should be consistent with actual rainfall records to determine the length of the rainy season. Our landscapes receive a significant amount of nitrogen from both atmospheric deposition, primarily rainfall, and from grass clippings during the wet, warm months. According to the 2006 State of the Bay report, The Sarasota Bay Estuary Program states that 14 percent of the nitrogen in Sarasota Bay comes from atmospheric deposition indicating a similar rate of deposition on land. University of Florida Extension in the 2006 Florida Yards and Neighborhoods Program Handbook states that decomposed grass clippings are a significant source of nitrogen to improve soil fertility over time, reducing the need for nitrogen fertilization by up to 50 percent without a decrease in turf grass
quality. Extension publications from throughout the country consistently state that from 1 to 2 pounds of nitrogen per year are provided back to lawns from decomposed grass clippings. More grass clippings are produced in our rainy season than any other time of the year. Considering the above, nitrogen fertilization in the rainy season is not needed nor warranted. In fact, such fertilization timing can contribute to potential nutrient pollution more than at any other time of the year. It is also important to remember that slow release fertilizers applied before the rainy season will continue to supply nutrients during the rainy season.

2. Applicability: Professional, Institutional and Non-Professional

Landscapers Recommendation: Include applicability to non-professional applicators in addition to professional and institutional. All fertilizer applicators should be regulated – public and private, commercial and non-commercial.
Considering the above, the name of this ordinance should reflect the wider breadth of applicability (i.e. LANDSCAPE AND FERTILIZER MANAGEMENT ORDINANCE).

Background/Rationale: There is no justification for exempting homeowner applicators from the ordinance application requirements. In fact, non-professionals are often less knowledgeable about potential environmental consequences with respect to fertilizers and may be more apt to apply fertilizers improperly. In fact, Lee County residential fertilizer sales have increased from 5,238 tons in 1998 to 20,420 in 2006 – an increase of 15,182 tons. Exempting non-professional homeowner applicators would be contrary to the Lee County findings upon which the ordinance is based.

3. Registration, Training and Certification of Landscapers

Recommendations: Registration – **Professional Landscaping Businesses**: In addition to any current or future training or education requirements mandated by the State of Florida and/or Lee County, all Professional Landscaping Businesses shall obtain a Certificate of Completion from a Lee County approved Best Management Practices training program prior to obtaining a Lee County Local Business Tax Certificate for any category of occupation which may apply any Fertilizer to Turf and/or Landscape Plants. Professional Landscaping Businesses shall provide proof of completion of an approved training program to the Lee County Tax Collector's office within 180 days of the effective date of this ordinance. All Professional Landscaping Businesses applying for a new or holding an existing Local Business Tax Certificate shall ensure that all Applicators employed under the Tax Certificate receive the necessary training in accordance with the Training Section of this ordinance and abide by all of the provisions of this ordinance. All new employees serving as Applicators shall receive the necessary training in accordance with this ordinance within 90 days of employment and during this 90 day period shall apply fertilizers under the direct supervision of an Applicator who has successfully completed a
Lee County approved Best Management Practices training program.

Registration – **Institutional Landscapers**: In addition to any current or future training or education requirements mandated by the State of Florida and/or Lee County, all Institutional Fertilizer Applicators shall obtain a Certificate of Completion from a Lee County approved Best Management Practices training program. Upon the receipt of the Certificate of Completion and payment of a registration fee, the Institutional Landscaper shall be registered. All Institutional Landscapers shall ensure that all Applicators employed under the registration receive the necessary training in accordance with the Training Section of this
ordinance and abide by all of the provisions of this ordinance. All new employees serving as Applicators shall receive the necessary training in accordance with this ordinance within 90 days of employment and during this 90 day period shall apply fertilizers under the direct supervision of an Applicator who has successfully completed a Lee County approved Best Management Practices training program. All new Institutional Landscapers serving as Applicators shall receive the necessary training
accordance with this ordinance within 30 days of employment.

Training and Certification: All Applicators of Fertilizer within the unincorporated area of Lee County, other than private homeowners on their own property, shall abide by and successfully complete a Lee County approved Best Management Practices training program. This training shall include the most current version of the *"Florida Green Industries Best Management Practices for Protection of Water Resources in Florida, June 2002" as revised* and shall include the more stringent requirements set forth in this ordinance. Upon successful completion a Certificate of Completion will be provided. A list of approved training programs shall be maintained by Lee County on the Lee County Fertilizer Management website.

A vehicle decal shall be affixed and maintained on the exterior of all vehicles and trailers used in connection with the Application of Fertilizer within the area regulated by this ordinance. The vehicle and trailer decals shall be provided by Lee County. Private homeowners are encouraged to utilize the recommendations of the University of Florida IFAS *Florida Yards and Neighborhoods* program.

Background/Rationale: It is vital that all Professional and Institutional Landscapers, including Pest Control Operator (PCO) license holders, receive the Lee County-specific BMP training for fertilization or an equivalent IFAS certified BMP training. For County certification, PCO's must show proof of receipt of such training and be made aware of the Lee County Ordinance. In addition, **all** Applicators who operate under the licensed PCO or Institutional Landscaper should receive targeted training that focuses exclusively on the Lee County ordinance and the work rules established for proper fertilization and landscape maintenance. Industry representatives may mistakenly claim that because they are already licensed they have adequate knowledge and training to be exempt from the best management practice training and certification required by the ordinance. In reality, the state pest control operator licenses are specific to pest control, not to fertilization and other landscape practices. The study materials for the license and the test questions only pertain to pest management. While some information pertaining to Integrated Pest Management relates to the maintenance of healthy landscapes, it does not provide the appropriate comprehensive training for proper fertilization practices. In addition, licensed PCOs are allowed to have their employees work under their license while not directly supervised.

While some industry professionals might already have received the BMP training through IFAS that will form the core of the new training requirement, they would still need training on the Lee County ordinance. Furthermore, the certification is specific to the ordinance content and **all** Professional and Institutional Applicators should be required to obtain it, whether or not they have a PCO certification.

4. Fertilizer Content and Application Rate

Recommendation: Adopt the State Fertilizer Rule limitations of .25 pounds phosphorus per l000 Sq. Ft. per application, and .50 pounds per 1000 Sq. Ft. per year. Require that fertilizers applied to landscapes contain no less than 50% slow release nitrogen. Limit annual total application of nitrogen to the minimum application rates from the Florida DACS Rule for the Southern Region.

Background/Rationale: The newly adopted State rule by the Department of Agriculture and Consumer Services (DACS) governing fertilizer labeling in Florida sets a limit of .25 pounds of phosphorus per l000 Sq. Ft. per application and a maximum of .50 pounds per 1000 Sq. Ft. per year as their method of reducing phosphorus in water resources. Adoption of the provisions of the new DACS rule would make Lee County consistent with the State requirements, reduce confusion and enhance phosphorus reduction in our environment.

The Environmental Protection Agency, the USDA, and the Florida Yards and Neighborhoods Program all recognize the environmental benefits of using slow release fertilizers to reduce potential leaching and runoff. Any comments casting doubt on the pollution reduction potential of slow release fertilizers are without foundation. The 2006 Florida Yards and Neighborhoods Handbook favors fertilizers with a high percentage of slow release nitrogen stating: "these products have less potential to leach or runoff into Florida's waterways than quick release sources." Pollution potential would also be reduced because slow release fertilizers need to be applied less often. Slow release products also do not produce the growth flushes typical of quick release products thereby

reducing mowing frequency and the consequent risk of additional pollution from the deposition of grass clippings into waterways and onto impervious surfaces.
The availability of slow release products in the region will not be an obstacle. It should be noted that both the Sanibel fertilizer ordinance and the Sarasota County ordinance require no less than 50% slow release nitrogen. Other neighboring counties and their municipalities are also considering similar ordinances and it is likely that Lee County municipalities will adopt the County ordinance as well. Add to that the fact that fertilizer manufacturers have in the past demonstrated their willingness to alter the composition of fertilizer formulas in response to requests at the County level. Consequently, sufficient demand for the widespread distribution and marketing of such materials will increase thereby improving availability and reducing costs. Limiting annual total application of nitrogen to the minimum application rates from the Florida DACS Rule for the Southern Region would, as with the phosphorous application rates, make Lee County consistent with the State requirements and reduce confusion. In addition, being consistent with the minimum Florida DACS Southern Region rule is also a necessary first step towards a more sustainable and less chemically dependent landscape.

5. Buffer/Fertilizer-Free Zones
Recommendation: The fertilizer free buffer zone adjacent to water bodies should be 25 feet.
Background/Rationale: A 25 foot buffer, as established in the South Florida Water Management District rules for environmental resource permit applications, provides a reasonable measure of protection from applicator error. The Sanibel ordinance specifies 25 feet, as does the Southwest Florida Regional Planning Council's resolution. The FDEP also recommends that homeowners "do not apply fertilizers or pesticides within at least 25 feet of the water's edge or the wetland". Deposition of fertilizer adjacent to water bodies would also promote increased grass growth at the water's edge which when mowed would produce clippings, another source of nitrogen pollution.

6. Mode of Application: Deflector Shields
Recommendation: Require use of deflector shields on all broadcast fertilizer spreaders. Deflector shield requirement must be independent of the depth of buffer/fertilizer-free zones.
Background/Rationale: Deflector shields are inexpensive and very effective in keeping fertilizers off water bodies and also off impervious surfaces where it can be washed into storm drains.

7. No Mow/Low Maintenance Zones Recommendation: A six (6) foot "Low Maintenance Zone" rather than a "no mow zone" should be recommended and strongly encouraged in the ordinance. Collaborate with University Extension and Industry to develop and promote alternatives to mowed turf (i.e.). Pursue stipulating these changes in the land development regulations for landscaping in new development.
Background/Rationale: The term "low-maintenance zone" is preferable to the term "no-mow zone". "No-mow" connotes an image of unkempt shorelines and un-mown Turf. It also implies a prohibition of any type of shoreline care. However, the purpose of this type of shoreline zone is to keep organic material out of water bodies – not to prohibit

managed shorelines. In as much, “low maintenance” is a more accurate and less controversial term that should assist the County in its efforts to educate the public regarding the new ordinance.
Most existing landscapes feature St. Augustine or Bahia grass up to seawalls, bulkheads and lake/pond edges. An unfounded perception is that any change in plants to eliminate the need for mowing would result in view-blocking jungle like conditions that would also attract snakes and undesirable wildlife, etc. The identification and marketing of alternative low or no-maintenance groundcovers and other low-growing plants acceptable to property owners will reduce the amount and frequency of fertilization. It is interesting to note that the Model Landscape Ordinance produced by the Florida Department of Environmental Protection, IFAS, Water Management Districts and Industry specifies that: “no grasses that require mowing shall be allowed within six (6) feet of the water’s edge except where seawalls and bulkheads exist or where needed for erosion control”. It is however fundamental that changes in the land development regulations for new development be considered to design future landscapes with low and no maintenance areas adjacent to water bodies.

8. Public Education
Recommendations: Amend the ordinance to include a section on education after Section 7, using the language below from the SWFRPC fertilizer resolution, on public education and retail signage. In addition, we recommend that Lee County print a nutrient pledge on the back of each public utilities bill for Lee County residents. The utilities bill can serve as an educational tool to increase public awareness regarding the importance of clean and healthy waterways.
Public Education: Public Education is recommended regarding the appropriate use of fertilizers. Local governments will work with the IFAS Cooperative Extension staff to offer bi-weekly “Fertilizer Application” courses to all current and future applicators wishing to obtain the Lee County approved Best Management Practices certification. A general education program will be coordinated with local media to advise the public on the proper use of fertilizer and the environmental and health problem associated with mis-use. This will be based upon and utilize materials from the Florida Yards and Neighborhoods Program (FY&N). The objectives of the FY&N program are to: reduce storm water runoff, decrease non-point source pollution, conserve water, enhance wildlife habitat, and create beautiful landscapes. FY&N encourages homeowners to water efficiently, mulch, recycle, select the least toxic pest control measures, put the right plant in the right spot, fertilize only when necessary, provide food, water and shelter for wildlife, protect surface water bodies (i.e., bays, rivers, streams, ponds, etc.) and minimize storm water runoff.
Retail Recommendations for the Purchase and Sale of Fertilizers: Retail businesses within the region selling fertilizer shall post a notice in a conspicuous location near the fertilizer notifying customers of the limitation on the use of fertilizer containing greater than .25 pounds phosphorus per l000 Sq. Ft. per application, and .50 pounds per 1000 Sq. Ft. per year, the annual total application of nitrogen to the minimum application rates from the Florida DACS Rule for the Southern Region and the 50% minimum Slow Release Nitrogen requirement.

Nutrient Pledge: We, the citizens of Lee County, believe that water is one of our most valuable natural resources. We should minimize our contributions to the pollution of our water by following the highest possible environmentally safe standards with regard to the use of fertilizers, pesticides and other potentially polluting sources. We understand that our waterway quality is impacted by plant materials selection as well as the type, amount and timing of fertilizer application. Our goal should be to continually reduce waterway pollution so that we give the next generation higher quality water than we inherited.
Background/Rationale: A robust and comprehensive education program for the general public is widely regarded as a vital component of an effective plan to reduce the improper and excessive use of fertilizer. Potentially, a successful education program can help reduce non-point source pollution by increasing homeowners' understanding of the ordinance and compliance with the newly established rules.

9. Exemptions: "Damaged Turf"
Recommendations: Retain language exempting *newly established Turf and/or Landscape Plants for the first sixty (60) days after installation or planting* (SECTION EIGHT A1). **Eliminate** Damaged Turf and/or Landscape Plants exemption (SECTION EIGHT A2)
Background/Rationale: It makes some sense to exempt newly planted turf and plants from the rainy season restriction for the first 60 days as specified by current proposed ordinance language. However, granting such exemption for damaged turf and/or plants presents a significant loophole that could essentially negate the rainy season restriction. This is because "damaged" is open to wide interpretation. What can it consist of? It could be chinch bug damage to turf, damage from root rot disease, storm damage, equipment damage, damage from misapplication of herbicides – the list goes on and on. Trying to define and qualify damage would be extremely difficult, and subjective. It would be virtually impossible to have any enforcement from code enforcement officers. It would be best to allow exemption only to the extent that the damage requires replacement of turf and/or plants and only for such replacements.

10. Enforcement
Recommendation: Concentrate initial enforcement on the training/certification requirements. The commission should direct staff to work with retailers on making deflector shields available and marketing them to consumers, as well as posting highly visible point-of-purchase signage on the ordinance requirements at retail outlets. After public notice, code enforcement should begin spot check usage, and then give warning notices before issuing citations.

Background/Rationale: The following areas appear to be the easiest to enforce: certification and licensing use of deflector shields, and restricted rainy season application requirements.

11. Definitions
Recommendation: Considering all of the above, the following "definitions" should be included:
"Application" or "Apply" means the actual physical deposit of Fertilizer to Turf or

Landscape Plants.
"Applicator" means any Person who applies Fertilizer on Turf and/or Landscape Plants in Lee County.
Background/Rationale: The Applicability and Application sections of the ordinance utilize the above terms, requiring their ascribed meanings to be defined.

From: indigo press [mailto:indigocontact@earthlink.net]
Sent: Tuesday, October 16, 2007 1:56 PM
To: Bickford, Karen
Subject: Re: Final Agenda - Lee County Fertilizer Ordinance Forum

Karen,

Just a heads up. This guest opinion should be in the News Press by the weekend. Feel free to pass it along.

All the Little Sugars

Over the past two years while attorneys and bureaucrats, appointees and environmental groups threatened lawsuits and screamed back and forth at each other, mother nature, as she often does, kindly intervened. A two year drought has given all of us living at the bottom of the Kissimmee River valleys drainage system a welcome break. There hasn't been any polluted water pouring down the C-43 Industrial Canal (formerly the Caloosahatchee River) not because of any real political change of heart, but because there simply hasn't been enough water to dump.

With the rainy season over for 2007, Lake Okeechobee's water level currently stands at 10 feet, 10 inches, some 5 feet below normal. By spring the Lake will probably hit historic lows and with any luck at all, mother nature will grant us another year of reprieve from our own nitrogen-based eco-madness.

Why then are some of our most popular beaches posted with signs stating not to enter the water due to high bacteria levels? The answer is all the little sugars. Unlike cane fields, little sugars are everywhere. They are what scientists call non-point pollution sources. They come in a hundred different sizes and shapes—septic systems, overtaxed sewage plants, orange groves, cow pastures, commercial landscapers, lawns, motor oil, holding tanks, landfills, chicken farms, the list is endless. All of us, each and every person reading this essay, is a part of the problem.

Our society, by the nature of its operating systems, pollutes. We grow most of our food by using a clever combination of fertilizers and pesticides. Our yards are virtual chemistry labs. Our waste is laden with bacteria just as is the waste of the animals we consume. The environmental impact of every child born in America is 280 times greater than a child born in Bangladesh or Haiti.

Where do we start? We can't go pointing fingers at Bubba Wade this time for the polluted waters off of Bowmans Beach. The bacteria closing our beaches is from other nefarious sources—old package plants and the failing septics of Captiva likely being two of them. But when I hear the "say what I'm paid to say," scientists blaming this current outbreak of coastal pollution on bird poop or manatee droppings I want to cry. We've killed most of the manatees and birds have been pooping in the Gulf for a hundred years without closing down beaches.

Captiva, sadly enough, has become one of Florida's largest septic mounds. The island isn't even a block wide in places but it's crawling with septics. With elevations measured in meters, where do you think the effluent from those drain fields could go other than Pine Island Sound or the Gulf? It's sand, not stone.

Captiva needs a sewer system and they need it yesterday. Waterfront values plummet when they become sewerfront. Lacking the infrastructure to support the density, sewerfront is where the island is headed. The cost of a $20-30,000 hook up pales when compared with a million dollar drop in real estate values. South Seas Plantation, 'Tween Waters and other on-site package plants are strained to capacity. As these waste disposal systems fail, so to will a tourist industry that won't pay top dollar to spend a week along a posted beach. For them, it's a matter of self-preservation.

One option for the taxpayers of Captiva might be to try to pressure Lee County into footing all, or most of the cost. My guess is that Captiva taxpayers contribute tens of millions of dollars to the Lee County School system while sending less than a dozen kids to its schools. Perhaps they could split the cost.

Captiva could tie into Sanibel's sewer system or build their own. The engineers can work out the details, but the problem demands solving. If the citizens of Sanibel and Marco can afford a sewer system then I believe the good people of Captiva can as well.

As for all the other little sugars—the acres of septic systems in Lehiegh, the overtaxed package plants, the husband opening his newly purchased bag of 10-10-20, Lee County Mosquito control, storm water runoff, ad infinitum—we must address all of them. They all impact our estuary and if it means stepping on the toes of special interests, then so be it. Florida is only as beautiful as the water surrounding her. Sanibel's fertilizer ordinance, along with the one currently proposed for Lee County are both steps in the right direction. If green lawns mean closed beaches, to hell with my lawn. One by one by one by one, all the little sugars must go.

Charles Sobczak is a member of PURRE and the author of ***Alligators, Sharks & Panthers: Deadly Encounters with Florida's Top Predator—Man.***

From: Glenn Carretta [mailto:glennc@coconet.com]
Sent: Monday, October 15, 2007 2:43 PM
To: Bickford, Karen
Subject: water quaility

It is ridiculous not to take the strongest measures possible to protect our water quality.I want to know how everyone in our legislature will be voting on this issue. It should be reported to all. Any Commissioner who does not understand the importance of water quality should not be in office!

Glenn Carretta, Broker-Associate
Team Sanibel
John R. Wood Island Real Estate, inc.
630 Tarpon Bay Rd #7
Sanibel, FL. 33957
239-850-9296 or 800-784-2616
glennc@coconet.com www.TeamSanibel.com

From: Jay Arend [mailto:jay.arend@cityofbonitasprings.org]
Sent: Monday, October 15, 2007 3:04 PM
To: Bickford, Karen
Subject: Fertilizer Resolution

Dear Karen,

As stated to you last week I will not be able to attend the meeting on Tuesday Oct. 16. 2007. As the appointment by the Florida League of Cities to the Department of Agriculture Fertilizer Task Force, I would like to convey to you the discussions so far at their meetings.

The first meeting was held in Sarasota and a lot of time was spent going through our responsibilities and setting up our schedules. However the important item that came out of that meeting was that we would only present to the State items based on science. We discussed many other concerns and decided that the group needed some presentations made in regards to questions that could be supported by science.

The second meeting was held in Gainesville and we had some interesting presentation of work done by the University. All items discussed will eventually go to a final vote in future meetings. However, several items are strongly recommended at this time. It is recommended that the State pass a Law rather than an ordinance. This takes the problem of having every jurisdiction coming up with separate rule which would make it difficult for the certified applicators to comply with. There was no evidence presented that we should not apply fertilizer during the rainy season. Many test indicated that rain in excess of 5 inches did not cause a leaching problem. If would be recommended not to apply immediately before a known tropical storm or hurricane as runoff in extreme heavy rains would be more of a concern. In regards to slow releasing fertilizers most discussion will be that fertilizer with nitrogen in it will have to be at least 70% slow releasing. Based on discussions, issued being looked at and discussed further are, analysis, application rates per various grasses and zones, education and inspection or policing of the regulations. The one issue that will be looked at strongly will be buffer requirements. This will be a big one as we will more than likely talk distance and not get into landscaping for buffers. Drop spreaders near water bodies will be looked at as well as slopes.

As a resident of Lee County my suggestion would be for you to continue fine tuning your present resolution. However, I do not think it needs to be passed immediately unless you may want to change it to comply with a State Statue. I believe that the legislatures will want to address this early on in their 2008 series of meetings. I also believe that they will make it known that any changes in a resolution that are stronger than the law will need to be based on science, and will be subject to challenge if it is not.

Our next meeting is November 2 in West Palm Beach and I will send you updated information. Good luck in your efforts on Tuesday.

Mayor Jay Arend
City of Bonita Springs

From: Jeff Hayward [mailto:jeffhayward@ppdresearch.com]
Sent: Monday, October 15, 2007 4:57 PM
To: Bickford, Karen
Subject: deliberating ordinance about fertilizer

Dear Ms. Bickford --

I'm writing to express my concern about the *strength and potency* of the latest draft ordinance about fertilizer use. It sound as though it is being *watered down* ...only including landscape professionals in the unincorporated parts of Lee County?? Shouldn't we ALL take responsibility for reducing the runoff that negatively impacts our water conditions? The relationship is not speculative, it's factual. When do we think anyone is going to pay attention to the threats to our water quality if we don't provide a responsible, forward-thinking, comprehensive ordinance that says THIS IS IMPORTANT -- or are people imagining that we will just leave this problem to our kids and grandkids?

Please, please ...put back the provisions that were in the original draft. You'll be doing the right thing.
Thank you.

--
Jeff Hayward
2110 Sunset Circle
Sanibel, FL 33957

From: docjkz [mailto:docjkz@insightbb.com]
Sent: Monday, October 15, 2007 5:07 PM
To: Bickford, Karen
Cc: docjkz@gmail.com; clcady@earthlink.net
Subject: Fertilizer Control

Dear Ms. Bickford,
As a Lee County home owner, I respectfully request that our representatives in government acknowledge the data that documents how harmful nitrogenous and phosphoric run-off can be to our water bodies and wetlands. I further request that they pass broader legislation regarding use of fertilizers to include restrictions of residential use, application during the rainy season, and use adjacent to wetlands and water bodies. We must be good stewards of our delicate ecosystem. It is our responsibility.
Sincerely,
Julie Zugelder, DVM

From: Turtlegait@aol.com [mailto:Turtlegait@aol.com]
Sent: Monday, October 15, 2007 9:43 PM
To: Bickford, Karen
Subject: Fertilizer Ordinance

Dear Ms. Bickford: As someone who is living downstream from Ft. Myers and much of Lee County, I wish to urge Lee County to adopt a strong and comprehensive fertilizer ordinance. If it only covers landscapers, all the undesirable fertilizers will remain on the market and be inappropriately dumped on our porous soils. Events of the last few years have demonstrated that we have far surpassed the point where dilution can effectively correct the polluting factors we have thoughtlessly introduced to the ground and water around us. Strong measures are called for. Don't let us down.
Thank you,
Robin Krivanek, Sanibel

From: Holly F. Downing [mailto:Holly.Downing@mysanibel.com]
Sent: Friday, October 19, 2007 9:20 AM
To: Bickford, Karen
Subject: FW: Statement from Sanibel Mayor Mick Denham

CITY OF SANIBEL
STATEMENT FROM MICK DENHAM, MAYOR
Presented by Holly Downing, City of Sanibel Environmental Specialist

Southwest Florida Regional Planning Council Offices
Tuesday, October 16, 2007 - 9:00 a.m.

REGARDING DRAFT LEE COUNTY FERTILIZER ORDINANCE

Thank you for the opportunity to speak on this critical issue. My name is Holly Downing. I am employed as a biologist with the City of Sanibel Department of Natural Resources. I am here today as a surrogate for Sanibel Mayor Mick Denham who is unable to be here due to a conflict with the Sanibel City Council meeting.

As we discuss options for improving Lee County's water quality, it is clear that we must reduce excessive nutrients, including those applied through fertilizer.

The relationship between nutrient concentrations and algal growth is well documented in the scientific literature. In his report on red drift algae blooms in Lee County, Dr. Brian LaPointe of the Harbor Branch Oceanographic Institute clearly demonstrates the link between increased nutrient loads and blooms of red drift algae. This algae has blanketed our beaches for the greater part of two years.

Industry representatives have consistently maintained that "Best Management Practices," or BMPs, are good enough. BMPs, if updated regularly, can be a good reference and guide. Unfortunately, the single greatest problem with BMPs is that BMPs

are unenforceable. To be successful, it is critical that Lee County adopt a Fertilizer Control Ordinance that protects our waters ***and is enforceable.***

Earlier this year, our local regional planning council unanimously adopted a model Fertilizer Resolution. At the request of Jerry Brooks, Deputy Director of the Division of Water Resource Management for the Florida DEP this resolution was reviewed by an independent scientific panel including representatives from the University of Florida, the Department of Ag and Consumer Services, Florida DEP, the Southwest Florida Regional Planning Council, and the City of Sanibel. **These experts found no significant problems with the science used to develop the resolution.**

We believe this Resolution, carefully *reviewed by scientific peers*, is an appropriate model ordinance for all of southwest Florida, including Lee County.

We believe that a successful and enforceable fertilizer ordinance must:

1. Limit both the nitrogen and phosphorus content of residential fertilizers

Science clearly demonstrates that excess nitrogen and phosphorus significantly reduce water quality.

2. Encourage/require the use of fertilizers that contain slow release nitrogen

Science has also shown that nitrogen from slow release sources is more likely to be used by plants and less likely to leach into groundwater or wash away in storm water runoff.

3. Prohibit the application of nitrogen and phosphorus during the rainy season

Unpredictable summer downpours increase the likelihood that fertilizers applied during the rainy season will be carried away into our local waters.

4. Establish fertilizer-free buffer zones adjacent to water bodies and wetlands

There has been considerable debate regarding the size of these buffer zones. While the Green Industries BMPs allow for a 3' foot buffer (if a spreader deflector is used), SFWMD and DEP documents often indicate the benefits of buffers 15 to 25 feet or more.

5. Emphasize public education

Any Fertilizer Ordinance must address fertilizer use by homeowners and professionals both. Many homeowners are completely unaware of the potential impacts of excessive fertilization on water quality.

Our water quality is our livelihood, our economy, and our environment. We urge you to take the strongest legislative measures possible to protect us.

Thank you.

I am leaving with you a copy of a Guest Opinion written by Mayor Denham that appeared in the News-Press on October 8th.

Anonymous comment submitted at the Landscape & Fertilizer BMP Ordinance meeting 10/16/2007;

Post Ordinance Direction from the Commissioners to Lee County Staff

Recommendation: Form a working group composed of interested community stakeholders to identify where the rules for landscape design in new development and incentives for retrofitting of existing landscapes need to be addressed in order to protect and improve water quality in Lee County.

Background/Rationale: There is nothing in the proposed ordinance relating to changes in rules governing new development or the retrofit of existing landscapes.

There can be, we believe, considerable consensus in the community with respect to rules governing new landscapes so that they contribute to pollution reduction. The Model Ordinance produced by DEP, et al suggests that a limit be imposed on percentage of impervious surface. It also identifies stockpiling and reincorporation of topsoil as being important.

The importance of these measures is supported and outlined by the *2007 Nutrient Loads Assessment: Estero Bay and Caloosahatchee River Watershed* compiled for the South Florida Water Management District, when it states that "…retrofit BMPs (best management practices) for existing urban and agricultural areas (that do not currently have BMPs) will be necessary to manage and improve water quality in the watershed". The report goes on to state that "Based on the analyses in this report, a combination of enhanced BMP criteria, Low Impact Development practices, and retrofit BMPs will be necessary to meet these TMDLs".

This assessment clearly identifies that we need to go further than just strengthening existing BMPs, but we also need to incorporate low impact development standards for all new development, and improve the design of existing landscapes through incentives for retrofits.

If compaction of landscape soil in new development can be reduced, and conversion of adjacent hard surfaces from impervious to pervious increased significantly, pollution potential from fertilization would be greatly reduced. Everything done with respect to subsequent maintenance of landscapes can be reflective of what is initially designed and installed.

From: charles krivenko [mailto:ckrivenko@gmail.com]
Sent: Friday, October 19, 2007 5:01 PM
To: Bickford, Karen
Subject: Please enact a Lee County Fertilizer ordinance

Please enact a fertilizer ordinance for lee county to protect our aquatic enviroment.
Charles Krivenko MD
1550 Wilton Lane
Sanibel FL 33957 239.395.2949

From: Crcox123@aol.com [mailto:Crcox123@aol.com]
Sent: Saturday, October 20, 2007 12:11 AM
To: Bickford, Karen
Subject: FERTILIZER CONTROL ORDINANCE

Dear Ms. Bickford,

As a 10 year resident of Lee County, and Sanibel Island, I would like to respectfully urge you to draft this ordinance and urge its passing WITHOUT THE PROPOSED CHANGES BY THE FERTILIZER INDUSTRY LOBBY WHICH WILL SERIOUSLY WEAKEN THE ORDINANCE.

As retired CEO of one of the major Environmental Firms serving the state of Florida, I fully understand the major damage done to our waterways by Nitrogen, and have sadly walked the empty beaches at peak season the past two years until I too could not stand the disgusting mess and horrific stench of Sanibels "idillic" beaches.

It is absurd long term economics to permit continued damage to our reputation as a pleasant tourist destination, and wonderful place to live, simply to make the fertilizer and sugar cane corporations happy.

Thank you for your leadership to defeat these proposed changes - for the benefit all current and future residents of Lee County!

Sincerely,

Charles R. Cox
660 North Yachtsman Dr
Sanibel, FL 33957

-----Original Message-----
From: moevali@comcast.net [mailto:moevali@comcast.net]
Sent: Saturday, October 20, 2007 11:02 AM
To: Bickford, Karen
Cc: mvaliquette@comcast.net; moevali@comcast.net
Subject: Re: Public comment submitted 10/16

Hi Karen,
After sitting at the meeting last week, I have edited some of our statement to the Commisssioners. Attached is the edited statement from PURRE.
Thanks,
Maureen

LEE COUNTY FERTILIZER ORDINANCE

Submitted by:
The PURRE (People United to Restore our Rivers and Estuaries) Water Coalition

The PURRE Water Coalition applauds Lee County for stepping up to the plate in coming up with a Fertilizer Ordinance for the county. It is a step forward to improve and maintain, in our own back yard, the waterways that we depend on for economy, lifestyle, and recreation.

It is evident that Lee County understands the importance of controlling and limiting as much as possible the amount of nutrient –laden runoff from residential neighborhoods, farms, golf courses, commercial and industrial areas. For sure, the detrimental effect of the quality or our bays, estuaries, streams, lakes, and the Gulf of Mexico has been evident in the last few years. We cannot blame all the pollution in our waters on massive releases from Lake Okeechobee. The fact that we have

had a drought with no releases this year, yet we still are seeing enormous amounts of Red Drift Algae, and other Harmful Algae Blooms, shows that our local communities contributes to pollution.

In reading over this proposed ordinance, PURRE found many positive points that would help to improve water quality and instill a common sense approach to management of fertilizer application. However, there are many areas that fall short of making this ordinance truly efficient in its purpose to improve water quality in Lee County.

On Page 3: <u>Purpose and Intent</u> – "to minimize the negative environmental effects said fertilizers have on" …waterways. "Regulation of nutrients, including both phosphorus and nitrogen contained in fertilizer…is a crucial step towards improving and maintaining water and habitat quality."

Knowing the intent of this ordinance I would like to point out what PURRE feels make this document weak in reaching the goals intended.

1. **Section four: Application (p. 6)**
   "This ordinance shall NOT apply to non-professional landscapers."
   Whether or not Lee County feels they can monitor home -owners, this ordinance should apply to ALL people using fertilizers. Human nature tends to take the easy way out. If homeowners knew that there were rules to follow, with consequences of breaking the rules, they would tend more to educate themselves on this ordinance.
2. **It is noted that there are not limits on the nitrogen and phosphorus content of**
   residential fertilizers. We suggest that limits would be set. Science clearly demonstrates that excess nitrogen and phosphorus significantly reduce water quality.
3. **Section five, B: Institutional Landscapers (p. 7)**
   This section refers to registering, yet says nothing about rules for application. The following statement should be added: "At least one Certified Professional Landscaper will be on site while fertilizer is being applied."
4. **Section seven: #2, Slow Release Fertilizers (p. 9)**
   "Professional Landscaping Businesses and Institutional Landscapers are ENCOURAGED to use Slow Release Fertilizer…"
   If one of the purposes of this ordinance is to lesson nitrate leaching and run-off, why is it not mandated to ONLY use Slow Release Fertilizers? This should be reworded to say, "Professional and Institutional Landscapers WILL ONLY use Slow Release Fertilizers."
5. **Section seven: E, Buffer (p. 10)**
   "If a spreader deflector shield is used no fertilizer shall be applied in or within 3 feet of the edge of any water body, seawall, or designated wetland."

This should be changed to: "Even with spreader deflector shields, no fertilizer shall be applied within at least 15 feet of the edge of any water body, seawall, or designated wetland." We would prefer to see a 25 foot minimum. With a 3 foot buffer, run off is Un-avoidable.

6. **Section eight: (p.13) Golf Courses are to follow BMP for the Enhancement of Environmental Quality on Florida Golf Courses.**
   We would suggest that Lee County would also urge, maybe by an incentive program, that Golf Courses would use the Audubon International Sanctuary Program for Golf Courses. The Sanctuary Golf Course on Sanibel has the Audubon Certification, and in speaking with the course manager, he feels that the DEP Program along with the Audubon program gives enough flexibility to provide an excellent maintained course, while preserving and protecting the environment.
   (section 8, continued)
   "Specialized Turf Managers shall use their best professional judgment"…This is relying on professionals to monitor themselves. Specialized Turf Managers might not always be aware of or inclined to do the best for the environment.
7. **Section 11: Violations and fines, (p. 14)**
   Violation fines need to be more severe. If the fines are too low, people will not take them seriously. A "three strikes you are out" rule should apply here. If you are fined 3 times, the Professional and Institutional Landscapers license should be taken away. Considering the county has concerns for the enforcement of this ordinance, consequences for breaking the rules should be more harsh.

   MONITORING AND ENFORCING THIS ORDINANCE WILL BE OF UPMOST IMPORTANCE. ENOUGH STAFF WILL BE NEEDED TO MONITOR THE ENTIRE COUNTY.

www.purre.org
info@purre.org

-----Original Message-----
From: Patricia Leplae [mailto:pleplae@mac.com]
Sent: Saturday, October 20, 2007 11:10 AM
To: Bickford, Karen
Subject: fertilizer control

I am emailing to plead with you to help pass a strict fertilizer control Ordinance for Lee County. As a homeowner on Sanibel Island I have experienced the red algae bloom too many times. We have a beautiful gem of a natural island that is getting polluted because of the nitrogen in the waters surrounding it. Please don't give in to the large fertilizer producers and sell out our island.
Sincerely,

Patricia LePlae

979 E. Gulf Drive #302

From: DHKANDBJK@aol.com [mailto:DHKANDBJK@aol.com]
Sent: Saturday, October 20, 2007 12:19 PM
To: Bickford, Karen
Subject: Attn: Karen Bickford

Sanibel and Lee County need a strong fertilizer ordinance. Please follow through with the regional planning counsels fertilizer resolution and resist the fertilizer lobby. Thanks, David and Barbara Kingsbury

-----Original Message-----
From: maryrawl@comcast.net [mailto:maryrawl@comcast.net]
Sent: Saturday, October 20, 2007 12:33 PM
To: Marti Daltry; Roy and Nora; bgseaplane@bocagrande.net
Cc: lysechrist@aol.com; Carl Veaux; Dave Urich; Ellen; Ellie; Nora Demers; Peter Quasius; Loren Wieland; RoyNora; Paul Holmes; Bill Hammond; Dave Ceilley; Wyatt Daltry; Margaret England
Subject: Re: Fw: fertilizer ordinance supporters & potential supporters

After sitting through the workshop the other day, I recalled a professor from decades ago - "if you have to fertilize it or irrigate it, it shouldn't be growing here!". In my opinion, the Lee Co ordinance is nothing but a very small bandaid, event the DACS rep said it won't do much and is unenforcable.

Local groups should be aiming for a total ban of fertilizers and mandating 100% natives (or the 90% recommended by FNPS), in my opinion. Compromise gets us nowhere, as evidenced by our WQ issues.

From: Islendz@aol.com [mailto:Islendz@aol.com]
Sent: Saturday, October 20, 2007 1:37 PM
To: Bickford, Karen; Dist1, Janes; Dist2, Bigelow; Dist3, Judah; Dist4, Hall; Dist5, Mann; awbellew@breezenewspapers.com; baileysgeneral@baileys-sanibel.com; Barriertitle@aol.com; billy@billysrentals.com; Bms4454@aol.com; sancapads@breezenewspapers.com; carlajohnston@earthlink.net; katrina@paradesign.us; djensen5800@earthlink.net; gulfshorelife@hotmailcom; IslandGirl@mycingular.blackberry.net; HollyEdePorter@aol.com; adsales@toti.com; jshuff@tween-waters.com; LawyerLauri@aol.com; Leopardiva@aol.com; JRM@sanibellaw.com; rpmsanibel1@yahoo.com; michaelpick@hotmail.com; mvaliquette@comcast.net; nurselucky@hotmail.com; paula_lives@yahoo.com; pjp33957@comcast.net; ric_lives@yahoo.com; san_cap_chamber@comcast.net; SANBLSPRTS@aol.com; sanadbuilder@breezenewspapers.com; seaweedskin@hotmail.com; StanPond@aol.com; timmitchellxxx@gmail.com
Subject: Fwd: CONSIDERATIONS

If you care, it/you will show,
PLEASE ATTEND PUBLIC HEARING ON FERTILZER ORDINANCES NOVEMBER 13th AT 5PM IN THE LEE COUNTY COMMISSION CHAMBERS 2120 MAIN ST.

To whom it may concern,
We have been living up to the ever changing ordinances in relation to setbacks (from bodies of water) as Islanders for a long time. My father Bob Degand is retired from building docks

here.....old school. There was a time when he could say that the majority of the docks that stand, he built. Times have changed and continue to. I have asked different activists for a while now, "When will agriculture setbacks change to the times?". Fishermen are farmers too in a round about way. Why is one regulated to a higher extent then the next? And golf courses, well, I agree with Mark Twain.... "Golf is a perfect way to spoil a nice walk". I wonder if he knew something then, we are all missing now?! I a sure there is a fertilizer out there that we can agree holds NO RISK to polluting our ground water, as sure as there is regulations to the size and season we can catch fish. I don't get much time to fish (or send out e-mails) anymore, so, when I do, I don't find these restrictions convenient at all. At the same time I KNOW WHY THEY EXIST! WHAT I DON'T KNOW IS WHY THEY DON'T EXIST FOR OTHER INDUSTRIES THAT DO HAVE A MORE DETRIMENTAL EFFECT THAN OVER FISHING EVER COULD!!!! IN OUR SEARCH FOR COMMON GROUND, LET'S NOT FORGET ABOUT COMMON WATER!!
SINCERLY, RANDALL A. POST
35yr Sanibel Resident and Business Owner

p.s. Tell your science minded associates looking for solutions to lowering lake levels to look into "Fractional Displacement" using steam. It's a 9th grade physics thing. I would love to brainstorm with them over some Stone Crab. I understand Stone Crab season just opened!

From: Mary Ann Sinclair [mailto:MaryAnn@sanibelaccom.com]
Sent: Saturday, October 20, 2007 2:37 PM
To: Bickford, Karen
Subject: FW: Fertilizer Control

To: Karen Bickford

Please do not allow more fertilizer to pollute the very things that people come to Florida for...the beaches, the water, the birds, the fish. Please help to protect our water and our beautiful state with a good policy for our whole county. We are destroying our environment slowly but surely with all the "junk" people can't live without, or so they think...green grass, non-native plants, trees and shrubs, golf courses. How selfish can we be...lets start taking care of our environment, not increasing the stresses in littel bits until it is altoghter so overwhelmed we have destroyed it. Thank you

Mary Ann Sinclair
Sanibel & Captiva Accommodations
1-800-237-6004
www.sanibelisland-fl.com

From: maryrawl@comcast.net [mailto:maryrawl@comcast.net]
Sent: Sunday, October 21, 2007 9:54 AM
To: Dist1, Janes; Dist2, Bigelow; Dist3, Judah; Dist4, Hall; Dist5, Mann
Cc: Bickford, Karen
Subject: FW: $1000 incentive to remove turf ?

Commissioners -

FYI - we have to stop growing turf grass and start growing seagrass. The large scale eutrophication of SW Florida was correctly predicted over 15 years ago.

I recall my professor at FAU thirty years ago lecturing us on native vegetation. He said that if it has to be watered or fertilized, it should not be growing here.

In my opinion, Lee County should ban fertilizers and mandate 100% native landscaping - or at least the 90% recommended by the FNPS.

The current draft ordinance is merely a very small bandaid. We have to do more!

Mary Rawl
Ft. Myers

---------- Forwarded Message: ----------
From: Peter Barile <peterbarile@hotmail.com>
To: <maryrawl@comcast.net>
Subject: $1000 incentive to remove turf ?
Date: Sun, 21 Oct 2007 13:02:09 +0000

Mary-- Good to see you again! See below-- I feel the rumblings of cultural change !

orlandosentinel.com/news/local/seminole/orl-water2107oct21,0,1992755.story?coll=orl_tab01_layout

OrlandoSentinel.com

Get paid to go green?

Oviedo ponders cash incentives to add Florida plants, cut water use

-----Original Message-----
From: Deborah Lockhart [mailto:deborah.lockhart@yahoo.com]
Sent: Sunday, October 21, 2007 11:06 AM
To: Bickford, Karen
Subject: Lee County Fertilizer Control Ordinance

Dear Ms. Bickford,

I am a resident of Wisconsin, but am a frequent vacationer to Lee County and Sanibel Island. I am well aware of the environmental issues Sanibel has experienced with their beaches. The environmental impact from fertilizer is clear and documented.

Although I do not live in your state, the concerns of the residents of Sanibel are my concerns as well. This issue is so very important! Please, I urge you adopt a strong, enforceable fertilizer ordinance for Lee County.

Sincerely,
Deborah Lockhart
Eau Claire, Wisconsin

-----Original Message-----
From: Jeff Hayward [mailto:jeffhayward@ppdresearch.com]
Sent: Sunday, October 21, 2007 11:24 AM

To: Bickford, Karen
Subject: deliberating fertilizer issues

Dear Ms. Bickford --

I'm writing to express my sincere hope that Lee County Commissioners will do the right thing and take a serious stand in favor of reducing fertilizer, and making the public aware of the consequences of fertilizer use and runoff.

I feel that we're all "behind" (in the sense of lagging) the science on these kinds of issues, as we somehow don't pay attention or think why-should-I? when my neighbor doesn't have to? Personally, I became aware of the runoff problems about a decade ago at the Monterey Bay Aquarium when I found out that a lot more oil was reaching the oceans from runoff than from tanker spills -- but of course, that's not what makes good "evening news" so it's a huge fact that's below the radar of most of the public. I think fertilizer use is in the same category -- you go to the garden store or nursery, and there are all kinds of fertilizers to buy and don't you want to provide nutrients for the beautiful plants you just bought? This is why we need good government -- to tell the other side of the story ...whether through ordinances, or public education campaigns, or sponsoring essay/drawing contests in schools -- how else are we going to let the public know, in a BIG way, that fertilizer runoff is hurting our water quality?

I appeal to you to do what you can to create a viable and enforceable stand whereby the county follows the clear scientific findings and communicates these to the public.

Thank you.

--
Jeff Hayward
2110 Sunset Circle
Sanibel, FL 33957

From: Cynthia Rice [mailto:crice149@yahoo.com]
Sent: Sunday, October 21, 2007 4:39 PM
To: Bickford, Karen
Subject: fertilizer ordinance

Please be sure to include rules for residents use of fertilizer, adequate buffers around bodies of water, and require use of SLOW RELEASE nitrogen in your fertilizer ordinance.
Thanks, Cynthia Rice

-----Original Message-----
From: Arlene Strom [mailto:stromam@yahoo.com]
Sent: Sunday, October 21, 2007 4:45 PM
To: Bickford, Karen
Subject: Fertilizer Control

Ms. Bickford:

Now is the time to establish a strong fertilizer control law. Our beaches have been in sad shape for too long. If we don't control the fertilizer now, we will lose all the way around. Our home values will decline, our birds will suffer, tourism will decline and I feel we will suffer respiratory problems due to the algae.Please put a strong law into place. It can always be changed.Thank you for your time, Arlene Strom, Unit F8, Sanibel Arms West

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From: Martha Kendall [mailto:martykendall@gmail.com]
Sent: Monday, October 22, 2007 8:33 AM
To: Bickford, Karen
Subject: fco

Please work to adopt an enforcable fertilizer control ordinance that requires slow release nitrogen and states a specific application barrier!

From: John [mailto:john@realtypartnerssite.com]
Sent: Monday, October 22, 2007 10:19 AM
To: Bickford, Karen
Subject: Fertilizer Ordinance

My wife and I have been residents of Lee County since 1993 and I am a local business owner. The number one income source for Lee County is tourism and tourism depends on clean water. Our county has been asking other regions of Florida to cooperate with Lee County in stopping the pollution of our waterways. There is a clear link between increased nutrient levels and algal blooms. Fertilizer is a significant source of nutrients in our waterways. Please support the Regional Planning Council Fertilizer Resolution which would show other Florida communities that we can be a leader, a model, in addressing this issue.

The fertilizer industry is lobbying to weaken the Lee County Ordinance. The proposed Ordinance is weak in the following areas:

1. Does not establish rules for fertilizer use by residents.
2. Does not recommend an adequate buffer between fertilizer placement and bodies of water.
3. Does not require the use of slow release nitrogen (a major nutrient source for algae).

Please make certain the interests of our community are served as a higher priority to the interests of the fertilizer lobby.
Thank you.
John and Katherine Fjeldstad
869 Limpet Drive
Sanibel, FL 33957
239.395.2593

-----Original Message-----
From: Michael C. Mullins [mailto:mullinsassoc@earthlink.net]
Sent: Tuesday, October 23, 2007 9:30 AM
To: Daltry, Wayne E.
Cc: Dist1, Janes
Subject: Fertilizer controls

We need to greatly reduce fertilizer applications in order to improve our ground water and decrease nutrient loads in our surrounding waters.

Fertilizer restrictions being applied throughout Florida and being considered in Lee County can help, but only if we gain substantial compliance from the public. Valued plantings (pets to some folks) cannot become the collateral victims of such restrictions or the plan won't work; it is highly dependant on voluntary compliance.

As an avid gardener, I have long considered the idea that our barrier islands'' Ph is much too sweet (alkaline) for most plants. This is caused by unusually high calcium levels, with contributing factors from well water (mine tests at 8.2) and even IWA water which is often more sweet than sour, etc. I have gotten some help from Steve Brown, Lee County extension agent, re the use of acidifiers such as elemental sulfur to help amend the Ph lower; more neutral to slightly acidic.

Anecdotally, creating such a proper Ph (neutral to slightly acidic) resulted in many of my own specimens getting more out of the available nutrients; in a more neutral to acidic soil condition many plants require less fertilizer than otherwise. Many such plants, palms, etc. cannot properly utilize required nutrients including trace minerals in our more typically alkaline (sweet) soil condition, thus the tendency is to add more fertilizer, rather than understand the problem.

I think much more Ph research must be done and/or made available (likely it already exists)to help local gardeners, landscapers, growers and other practitioners of horticulture with better understanding of Ph balance and it's impact on nutrient utilization. This may enhance the effectiveness of fertilizer restrictions as compared to implementing such restrictions alone. Essentially the goal is to help practitioners and homeowners to get a more effective bang from each fertilizer application, thus requiring less fertilizer and fewer applications, gaining greater compliance with what would otherwise be difficult rules to enforce.

Mike
Michael C. Mullins
Mullins Associates
17171 Captiva Dr.
PO Box 888
Captiva, Fl.
33924

-----Original Message-----
From: Toni & Dave Eyrich [mailto:eyrichhome@hotmail.com]
Sent: Tuesday, October 23, 2007 10:01 AM
To: Bickford, Karen
Subject: fertilizer ordinance

Dear Ms. Karen Bickford,
My husband and I will not be able to attend the November 13th public hearing concerning the Fertilizer Control Ordinance. So, we would like to offer our opinions now.
After reading several front page articles recently in the Wall Street Journal, it is fair to say that Florida cannot continue to follow current policies and expect new residents to keep pouring in. Competition from other southern states with lower taxes, less population density and shorter distances to "home" is going to affect Lee County.
The sub-prime mortgage crisis and over-building position Fort Myers with the number one number of properties for sale IN THE NATION!
However, as property owners on Sanibel, we feel there is more to the story. The failing health of the environment of the region is affecting the overall desireability of the area. When tourists have to check daily the pollution safety level of beaches for swimming, tourists will go elsewhere. When the beaches are covered with two feet of algae, tourists will go elsewhere. The economy of Lee County is highly linked to the tourist trade - and the settling of baby boomer retirees.
Finally, people are noticing that human impact on the environment is taking its toll. Fresh water releases from Lake Okechobee, ineffective sewage treatment facilities, improper use of fertilizers are all part of the problems.
You have the opportunity to carefully examine all the well-documented studies on the impact of fertilizers on the water in the estuary areas. It is only common sense that heavy use of chemicals in sand-based land masses is going to get into the waterway systems.
Please vote your conscience and your integrity for the FUTURE health of the region. Take a stand against the overuse of fertilizers in our region. How important is a gorgeous green yard, when the rest of the picture is being devastated by chemicals, including flora, fauna, creatures big and small??
Sincerely,
Dave and Toni Eyrich
future retirees, avid fisherpersons, beachcombers, bikers, community boosters to our many northern guests

Do You Really Need That Lawn?

If you're serious about improving the environment, here's what an expert says it will take.

Win Everham – Gulf Shore Life 2007

Some people think a category 5 hurricane is just what we need. For as long as I have lived in Southwest Florida, I've been told that our problem is too many people are moving here. So a good, strong hurricane or getting rid of mosquito control and air

conditioning might seriously discourage potential newcomers. But the problem in Southwest Florida is not the number of people; it's the choices we make about how to interact with our environment. No human is an island; we are all impacted by the activities of everyone living upstream, and our needs and wants influence everyone who lives downstream. Regardless of whether you are an alligator, a swallow-tailed kite or a human, this is the reality. How we choose to live on the land affects our neighbors, the flow of water, the health of the ecosystems upon which we depend and our quality of life.

We Need Fewer Lawns

Many of us first came to Florida on vacation. We were attracted to the natural beauty, to the climate, to the beaches. I first arrived at Southwest Florida International Airport in April 1996, having left the still-cold North for one of our warm Florida spring evenings. As I drove the rental car away from the old terminal, I saw two sandhill cranes feeding along the edge of the wetlands. I remember thinking, "I could live here."

My wife and I bought our first house on a large lot with a lawn planted from corner to corner. All of the native plants—saw palmetto and slash pine, dahoon holly and tick seed—had been bulldozed prior to building the house to make way for large volumes of fill dirt used to raise the elevation of the lot. After our house was built, sod was rolled across the lot, leaving us to plant whatever we preferred. In our neighborhood, there are mostly exotic trees and shrubs. It seems sad to me that once we own a piece of this landscape, we feel the need to change it, to plant lawns and trees just like the ones we had up North. The exotic plants provide little habitat for our native animals. The unnatural lawns aggravate the changes in water flow across the landscape and wash off the excess nutrients and pesticides into our already stressed estuaries.

Grass is the most resource- and energy-intensive crop we grow, requiring water and small amounts of fertilizer. One sure way to kill a lawn is to give it too many nutrients, resulting in an explosion of weeds. The same is true of an estuary. If too many nutrients wash off our lawns, the excess nitrogen and phosphorus stimulate the growth of algae, which fills the water, shades out the sea grasses, washes up in clumps of green slime on the beaches and drives away tourists. Southwest Florida could handle more people, but it needs fewer lawns.

Control Our Water Better

Cypress trees are found where there is standing water through much of the year; slash pines are found where there is not. Water is the single most important environmental resource affecting where non-human species live on our landscape. Small changes in elevation result in longer or shorter periods of standing water, determining which species of plants and animals will survive in a given place.

Historically, much of our landscape filled with water during the rainy season and the water slowly flowed off, providing a moderate amount of freshwater to our estuaries throughout most of the year. The most significant changes we made to this landscape were to first dig ditches to drain the "wasted" swampland, and then to add more and more impervious surfaces (rooftops and roadways). This causes water to rapidly flow off the land during the rainy season, resulting in estuaries with excessively diluted seawater because of the unnaturally large volume of freshwater.

During the dry season, there is no freshwater left in those drained wetlands to recharge our aquifers and continue to feed the estuaries. Both we and the estuaries are starved of fresh water. The estuarine plants and animals, including the snook, spotted seatrout and redfish, are adapted to moderate levels of salinity, but they receive a one-two punch of too much salt in the dry season and too little salt in the rainy season. If we are willing to restore native wetlands, accept more water in our "back yards" and conserve water use, we can return to more natural flows of water and a healthier estuary, even with more people on the land.

Per capita, every day, we use about the same amount of water as five adult elephants. Human per capita water use is determined by dividing the total water used in the region by our population. None of us individually uses that much, but we all share in the regional commercial and irrigation needs. A large portion of that water irrigates golf courses. Individually, we may not be able to change regional water use, but can we reduce our individual water consumption? Do we really need a lawn? Do we really need to wash our car every week?

Consider Other Space and Energy Options

Few of us want urban sprawl, yet the ideal home for many of us is a large house on a large lot, the perfect recipe for urban sprawl. I would prefer to live on five or 10 isolated acres. Yet, if all of us needed five-acre lots, it would take almost four times the area of Lee and Collier counties to support our current population of 850,000 people. If we choose to live in smaller homes, on smaller lots, or even in multiple-resident condominium complexes or apartment buildings, we can fit more people in Southwest Florida. We have to distinguish what we need from what we want.

Ecologists determine maximum sustainable population using the concept "carrying capacity." The carrying capacity for a given species is determined by dividing the available resources by the needs of each individual. There are two reasons why it is difficult to apply this ecological concept to people. Our technology often allows us to expand available resources. When there's not enough land, we build up. When we're low on other resources, we recycle them or develop an alternative. The larger problem involves our inability to distinguish between needs and wants. We usually want more than we need, and that lowers the carrying capacity of a given place.

Arguably, we have exceeded our carrying capacity in terms of cars, road space and reasonable travel time. Is this because we have too few roads or because most of us feel we need the freedom of our own vehicles? It is so much easier to drive to the grocery store than to walk or bike there. I resist car-pooling because of the inconvenience of fitting my schedule to that of my co-workers or neighbors. Although it would be healthier to walk or bike, cheaper to take mass transit and maybe more interesting to carpool, each of us "needs" our own car, truck or SUV for every trip.

We don't have multiple options for mass transit in Southwest Florida. People don't use them because they're not readily available. But, of course, we don't offer options for mass transit, because people don't use them. Yet, each time we don't use a car, we reduce the total traffic load on our roads, thereby saving money and minimizing the use of fossil fuels, which helps reduce both pollution and our trade deficit. Maybe we don't need more roads, just more people who don't need cars.

Go for Needs—Not All Our Wants

It is easy to blame the challenges created by our rapid growth on our elected officials or to blame those responsible for planning infrastructure for not meeting our growth demands. Many of us feel the solution is to restrict growth, prevent more people from moving here. Often, if we were empowered to do so, we would require people to leave—probably all of those people who arrived since the day after we did. This is both impossible and ultimately selfish. Inevitably, as population density increases, our individual right to "do what we want when we want" diminishes. We cannot do whatever we want in our own back yards when our neighbors are right next door.

The community of Southwest Florida will continue to grow until the quality of life here drives as many people away as it attracts. Land, water or insurance will become too expensive. Traffic or water pollution will become unacceptable. Our ecosystems or climate will degrade to the point where people are no longer attracted to our landscape. The only alternative is to work together to plan for a future that gives all of us what we need, but maybe not all of what we think we want. This has to be done in a way that recognizes our connection to this landscape and our dependence on the ecosystems around us.

Win Everham is an associate professor of Marine and Ecological Sciences at Florida Gulf Coast University. His research focuses on the role of irregular events, including hurricanes, fire, flood, drought and frost, on the structure and function of ecosystems.

From: Arlene Doran [mailto:adoran@tds.net]
Sent: Tuesday, October 23, 2007 11:48 AM
To: Bickford, Karen
Subject: Fertilizer Ordinance for Lee County

Dear Ms. Bickford,

I am writing in support of a fertilizer ordinance that will be effective in improving water quality in Lee County. Lee County has the irreplaceable environmental treasures of Ding Darling preserve and the beaches of Sanibel Island. They are worth our best efforts to preserve and protect.

I am asking for your support for an ordinance that accomplishes the following:

Limits both the nitrogen and phosphorus content of residential fertilizers.

Encourage/requires the use of fertilizers that contain slow release nitrogen.

Prohibits the application of nitrogen and phosphorus during the rainy season.

Establishes adequate fertilizer-free buffer zones adjacent to water bodies and wetlands.

Thank you for your support.

Arlene Doran
827 E. Gulf Drive
Sanibel Island, FL

APPENDIX D – OCTOBER 16, 2007 MEETING MINUTES

Lee County Proposed Landscape and Fertilizer Best Management Practices Ordinance Meeting

The meeting was held at the Southwest Florida Regional Planning Council and began at 9:40am. Karen Bickford gave opening remarks and welcomed the guests to the meeting.

Presentation: Lee County Proposed Landscape and Fertilizer Best Management Practices Ordinance Discussion, Karen Bickford Lee County Division of Natural Resources. This presentation covered the time table of development of the ordinance and the direction given by the Board of County Commissioners. In addition the presentation included the table referenced Figure 2. Comparison Matrix shown in the white paper above. The presentation also gave a brief description of the ordinance provisions and applicability.

Presentation: Cultural Eutrophication, Jennifer Nelson, Florida Department of Environmental Protection. This presentation covered factual information about nutrient pollution. **Eutrophication**: The process by which a waterbody becomes enriched in nutrients (N, P), leading to an increase in primary production (plant growth). **Cultural eutrophication**: Eutrophication caused by human activity. The most common symptoms of eutrophication are algal blooms and fish kills usually resulting from a decrease in dissolved oxygen. Nitrogen and phosphorus are the nutrients of concern, which one more so depends upon the characteristics of the receiving waterbody. In our area, we have mostly non-point source discharges. Nutrients can also move through the groundwater. Although these nutrients are natural, excessive amounts of them are considered pollutants. Eutrophication is caused by nutrient inputs from many sources:

- Agricultural runoff
- Urban area runoff
  - golf courses
  - suburban lawns
  - Pet waste
- Sewage treatment plant discharges
- Atmospheric deposition
- Erosion of soil containing nutrients

The solution to cultural eutrophication is source reduction through;

- Agricultural BMPs
- Urban BMPs

- Storm water retrofits
- Nutrient treatment areas
- Regulatory controls (TMDL, NPDES, ERP, fertilizer ordinances/rules, etc.)
- Reduction of WWTP surface water discharges and high-density septic system areas

Presentation: “Why we need a stronger fertilizer ordinance”, Mike Holsinger, Sierra Club. This presentation was given almost verbatim from the comments submitted to the Board of County Commissioners and included in Appendix A above. In addition to the recommendations and points made in his presentation Mr. Holsinger gave specifica examples of best management practices that can be utilized to allow for a summer fertilizer “black-out” period without jeopardizing green lawns. Among these recommendations are applying iron in lieu of nitrogen to make the grass greener and using slow release fertilizers at the end of spring to sustain the grass over the summer months.

Presentation: “Lee County Water Quality Ordinance”, Erica Santella, Florida Professional Applicator’s Alliance. This presentation covered the basis, benefits and guidance provided by the *Florida Green Industries Best Management Practices for Protection of Water Resources in Florida* manual, 2002. The entities who participated in authoring the manual are the Department of Agriculture and Consumer Services, Department of Environmental Protection, University of Florida, Department of Community Affairs, Water Management Districts, and industry. She cited the following as common misconceptions; Fertilizer runs off turf when it rains and washes away, Nutrient pollution from lawn fertilizers, Runoff from sidewalks, driveways, turf, and other impervious surfaces. Erica further explained that the science cited in the manual is of known quality and is Peer reviewed by Land Grant University, University of Florida and consistent with other land grant science, and has not been challenged in over a decade. She further explained the industry perspective based on turf grass studies performed to date; turf grass is a water filter, turf grass captures nutrients & potential pollutants, turf grass is recommended by the USDA as a buffer around farm ponds, turf grass is used in Storm water BMPs in retention ponds, research has been conducted in various regions from Michigan to Rhode Island to Ft. Lauderdale. Erica cited the report *Documenting the Florida Yard Concept For Reducing Nitrogen Runoff and Leaching (2002)* as showing that the study shows no significant runoff from this specific test plot given study period, the soil type and plots tested. She also pulled out a quote from the study that showed that turf grasses showed less nitrogen leaching than ornamental plantings due to the density of vegetative cover in a turf stand. She then cited Erickson et al (2001) further demonstrating vegetative density as being an important factor in nitrogen leaching. In another study by Bowman et al (2002) the presenter cites the following statistics; This study managed turf grasses under "worst-case conditions to promote nitrate leaching" through using a highly porous sand, 100% water soluble nitrogen sources, a fairly high fertility level (350 kg N/ha/yr*) and irrigation to provide 50% leaching fraction which would be realistic for recently sodded grass. The results were 0.9% cumulative nitrate leached underneath a canopy of St. Augustine grass, which was "the most effective . . . at minimizing NO3 leaching." The vast majority of the nitrogen, 99.1% under heavily irrigated newly planted sod did not leach. Erica further cited that these are only a few studies that demonstrate consistency in scientific findings and are peer reviewed for quality. The presentation went on to cover the aesthetic benefits of grass, the economy, real estate values, outdoor activity, etc.

Presentation: "URBAN TURF FERTILIZER MANAGEMENT PROGRAM", Mike Page, Florida Department of Agriculture and Consumer Services. Mr. Page's presentation covered the recently passed Florida Administrative Code 50E-1.003 for fertilizer bag content and application regulation. He explained the background information pertaining to stakeholder involvement and upcoming dates of importance to affected parties; Effective date of the rule: December 31, 2007, Fertilizer Licensees will have until July 1, 2009 to comply with label change requirements. He went on to explain the definitions outlined in the code such as "low phosphate" and "no phosphate" fertilizer, "established" and "new" turf, etc. He also covered application rates that will be required in the rule as well as the upcoming efforts of the Florida Fertilizer Task Force. (http://consensus.fsu.edu/dacs/index.html, http://consensus.fsu.edu/Fertilizer-Task-Force/index.html, http://consensus.fsu.edu/Fertilizer-Task-Force/index.html)
There was an 1 ½ hour lunch break followed by the discussion session with panelists which began at 1:00pm. The panelists included Jon Iglehart, FDEP; Karen Bickford, Lee County; Peter Barile, Environmental Consultant; Mike Page, FDACS, Jim Beever, SWFRPC, and Erica Santella, TruGreen. Members of the public were asked to submit questions in writing to be answered by the panelists. Various questions were asked however many could not be answered in the time allotted. The following are notes taken during the panel discussion;

Q: How many similar ordinances are there Statewide?
A: Karen Bickford – I don't know that answer for certain however I do know of many communities that have passed or who are working on passing similar ordinances. Among those are Sanibel, Naples, City & County of Sarasota, Duval County, and Wakulla County. The City of Fort Myers is discussing an inter-local agreement with Lee County currently.

Q: What factors effect eutrophication?
A: Jim Beever – Changes in landuse from raw land to development or agriculture or from agriculture to urban, agricultural practices, timing (wet season versus dry season) varies with the nature of the watershed (some have more impervious surface than others), irrigation practices, rainfall, lake discharges are some examples. There are other factors such as atmospheric deposition.

Q: What is the contribution of urban fertilizers to nitrogen pollution?
A: Peter Barile: The Wekiva Study done in the SJRWMD shows that agriculture makes up about 75% of the nitrogen contribution and urban is about 25%. Nitrogen isotope tracer studies show that 50% of the nitrogen showing up in the springs in that area is from urban runoff.

Q: Is fertilizer really causing a pollution runoff problem?
A: Erica Santella – Yes, there is a problem, but we have the TMDL and NPDES programs in place to determine where loading is coming from and to regulate it appropriately.
A: Stephen Brown – There is a lot of research that points to a problem, however there are many differently formulated hypotheses that give different information which makes answering specific questions more difficult. Nitrogen may or may not be a primary problem, but hydrology is consistently showing up in studies as a big factor in pollution runoff.
A: Peter Barile – Source tracing studies are currently very reliable and more and more scientists are moving to this method to determine exact sources of pollution. Much of the data available are not that difficult to discern.

Q: How much does it cost to remove nitrogen from water?
A: Karen Bickford – The exact dollar amount is unknown at this time for Lee County, however based on what we spend for wastewater nitrogen removal it appears that 90% of your budget is spent on 10% of the nitrogen removed. Lee County spends millions of dollars a year in nitrogen

removal so that should give you some idea of the magnitude of cost to remove nitrogen from water generally.

Q: Will the fertilizer ordinance fix water quality problems?
A: Karen Bickford – Not by itself. This is only one part of a multifaceted approach to improving water quality and cannot be looked at as a panacea. There are many other nutrient removal programs that the County must develop in order to have a holistic approach to water quality improvement such as septic tank management, reduction of waste water discharges, and reduction of atmospheric nitrogen in the air shed. Education is probably one of the most important things that the County can do to improve the watershed overall. Low impact development planning is another issue. At our current rate of growth we will be at our projected 2050 build out by the year 2020.

Q: What is an appropriate buffer for fertilizing near water bodies?
A: Jim Beever – Much research has been done on this topic and the SFWMD environmental resource permitting rules indicate that a 25' vegetated and unfertilized buffer is appropriate (FAC 40D-40.301(f). This determination was made for water quality and minimal wildlife habitat support by the State of Florida.
A: Erica Santella – The buffer developed in the Florida Green Industries BMP Manual is 3'. This was decided because most people can determine what 3' is visually. Deflector shields should be used if applying fertilizer in this proximity to water or impervious surfaces to prevent pollution.

Q: Can soil be tested for nutrient content to make sure there isn't excessive leaching?
A: Karen Bickford: Lee County's Extension Service can perform soil tests.
A: Stephen Brown: The extension office locally can perform pH and salinity tests only, but samples can be sent to Gainesville to check the soil nutrient content.

Q: How enforceable will this ordinance be?
A: Karen Bickford – It depends on many factors; must have a dedicated staff to enforce the ordinance to start as well as the fact that there are many unknown variables at this point. I'll be able to give you a better answer in about 2 years when we have had a chance to try it.
A: Jon Iglehart – Regulated industry has a tendency to be "self enforcing". Industry often uses rules to "weed out" bad actors. Industry often polices itself pretty well. The people from the industry who are present will likely comply and industry as a group will dispute provisions that they feel have no water quality benefit and pose an economic disadvantage.

Q: Why are individual homeowners not included in this ordinance?
A: Karen Bickford – Again this ordinance is only targeting one area of possible nutrient pollution and the County will be working on other water quality improvement initiatives. It is not feasible to enforce this ordinance with the resources that we have available given the population size. Lee County wants this ordinance to "have teeth" and for it to be enforceable on some level. Education is the focus that the County feels will really make a positive impact toward changing residential behavior. One project that the County is partnering with CHNEP on is providing a pilot residential landscape BMP class that using the FYN curriculum to homeowners within the San Carlos Park neighborhood. This will incorporate instruction and plants with minimal landscape assistance to each resident who participates. The pilot project is being used to construct a model to provide similar services throughout Lee County in the future.

Q: How many people actually use professional landscape services or live in communities that manage their landscape?
A: Stephen Brown – The statewide estimate is approximately 10%. The other 90% is either

unknown or do-it-yourselfers. The mindset is also usually different between managed (HOA's) areas and the average resident. Individuals usually want their grass cut but no fertilizer application.
A: Peter Barile – Statistics for these trends will be published by the Florida Fertilizer Task Force later this week at http://consensus.fsu.edu/fertilizer-task-force/index.html. There is also a FAQ sheet about the new fertilizer rule available on that site.

Q: Is education for residents important?
A: Erica Santella – Yes, very. Lee County should include a residential education component in their ordinance. It is very important to get homeowners on board with the current BMPs.
A: Mike Page – Residential fertilizer consumers really are the most important group to educate with respect to this ordinance.
A: Jon Iglehart – Lee County should publish retail educational materials and signage in conspicuous places at retail outlets to let people know about this issue.

Q: Why isn't Lee County including a "No Mow Zone" as in other communities?
A: Karen Bickford – We found no compelling information that a no mow zone would really be a water quality benefit. There is not much research available that directly states how much benefit there is from not mowing a stand of grass. The key point is to make sure that there are provisions in the ordinance that prohibit discharge of clippings and yard waste into water bodies.
A: Stephen Brown – No mow zones were originally introduced as an agricultural BMP to prevent erosion.
A: Jim Beever – It has been found in wetland protection research that buffer zones do provide some water quality and habitat protection, however this research hasn't extended into urban turf grass buffers. Swales are good storm water BMPs, but they are never fertilized because they are there for the express purpose of capturing nutrients from storm water runoff. They do need to be mowed and the clippings taken away in order to work effectively. We have found with these BMPs that the steeper the slope the less treatment you get.

Q: What is the benefit of a wet season black-out provision in the ordinance?
A: Jim Beever – Total nutrient loading is highest during the summer. Each region has a different time frame for its rainy season and a such recommendations are put forth depending on the region to lower the probability of nutrient loading in storm water runoff.
A: Erica Santella – People will "load up" when fertilization is "legal" and more loading will occur prior to summer because plants won't have time to assimilate fertilizer when they are most productive. They grow and use the most nutrients during the summer and they are dormant and use less nutrients in the dryer months.
A: Stephen Brown – There are a lot of slow release fertilizer technologies such as heat release, microbial release and moisture release formulas available. IFAS does not recommend against fertilization in the summer. Slow release fertilizer can be applied any time and be effective for a long period.

Q: Is there any turf species that is most appropriate for Lee County?
A: Stephen Brown – No. Proper management and weather are key to nutrient runoff effects.

Q: Should turf grass be promoted as a filter?
A: Jim Beever – It is very effective for nutrient uptake in wet detention areas and swales, but it is not fertilized and the clippings are removed as part of the treatment process.

Q: How much nitrogen does grass clippings and atmospheric deposition contribute?

A: Stephen Brown – Decomposing grass thatch left from clippings acts as a sponge to trap nutrients and this provides a source of nutrients to the live grass underneath.
A: Peter Barile – Recent research has shown that 50% of the nitrogen budget is due to recycling clippings during times of heavy rain. There needs to be more research in this area to confirm.
A: Erica Santella – Categorically states that you do need nitrogen applied during the summer, but in small amounts.
A: Jim Beever – Atmospheric deposition varies by region; the airshed deposits are crucial. The deposition quantities have been shown in recent research to decrease south of Tampa. Tampa has as much as 40% of their nitrogen budget from atmospheric deposition. Big contributing sources are vehicle exhaust and incinerators.

Q: Will increasing fertilizer use during the summer increase maintenance requirements (mowing)?
A: Erica Santella – Not necessarily. Warm season grasses grow at a constant rate during the wet season.

Q: Do all plants need fertilizer?
A: Jim Beever – All plants require nutrients. Plants only require fertilizer if the desired growth is not occurring in the ambient conditions. This is why it is important to put the right plant in the right place. Plants require less fertilizer and water if placed correctly. Turf still requires fertilizer and water regardless.

Q: What are some other sources of nitrogen pollution besides fertilizer?
A: Erica Santella – Poor landscape practices can lead to increased nitrogen pollution; applying fertilizer to impervious surfaces. Altered hydrology, septic tanks, and waste water treatment plants are also some sources.

Q: Why isn't the County requiring mandatory use of slow release fertilizer?
A: Jon Iglehart – It doesn't matter if it is slow release because it can still be carried in storm water runoff. Fast release fertilizers will be taken up quickly by the grass and will not runoff if applied in small amounts and when heavy rains are not imminent. Slow release is good for lower maintenance areas.
A: Erica Santella - Industry application practices are different from residential application. Industry has to design and follow an agronomic plan depending on individual needs and if a slow release fertilizer is required then that takes away the ability of the landscaper to use best professional judgment.

Q: Does anyone know what the impacts to the industry have been since Sanibel passed their ordinance?
A: Unknown at this time.

Q: Is Lee County able to provide a bilingual curriculum for landscapers?
A: Stephen Brown – Yes. We are doing it now.

Q: Why do pesticide operators have to be certified if they already receive training?
A: Mike Page – Not all of the same topics are covered in both classes. Suggested that the state work with the County on incorporating pesticide and fertilizer BMP training into one course to make both more enforceable. The industry supports a level playing field for regulation.
A: Stephen Brown – The curriculum for landscape BMPs is already pretty hefty and this would create an additional burden for local government.

Q: Where is this ordinance applicable?
A: Karen Bickford – This will only be enforced in unincorporated Lee County and in municipalities that have entered an interlocal agreement with the County for enforcement in their limits. Fort Myers Beach is waiting for Lee County to start work on one and the City of Fort Myers has asked the County about an interlocal agreement. No follow up to date however.

Closing remarks included an announcement of the availability of the meeting minutes upon request one week after the meeting. The meeting adjourned at 3:17pm.